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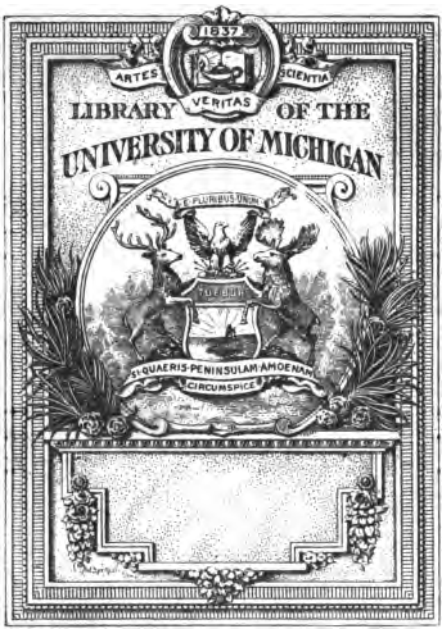

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AUCKLAND

University College

(UNIVERSITY OF NEW ZEALAND).

CALENDAR

FOR THE YEAR 1894.

Auckland:
PRINTED FOR THE UNIVERSITY COLLEGE.
MDCCCXCIV.

Auckland:
PRINTED BY WM. MCCULLOUGH, HIGH STREET.

1894.

Auckland University College.

Visitor:

THE HONORABLE THE MINISTER OF EDUCATION.

Council:

CHAIRMAN—SIR GEORGE MAURICE O'RORKE, B.A., M.H.R. (C. 3)

THE MAYOR OF AUCKLAND, JAMES JOB HOLLAND, ESQ. *

THE CHAIRMAN OF THE AUCKLAND BOARD OF EDUCATION, RICHARD UDY, ESQ.*

THE MOST REVEREND WILLIAM GARDEN COWIE, D.D.(B.3)

JAMES DILWORTH, ESQ. (A. 2)

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THE HONORABLE JOSEPH AUGUSTUS TOLE, BA., LL.B. (B.4).

Registrar:

ROBERT BOYD KIDD, LL.D.

* *Ex officio.*

A. Appointed by the Governor in Council.

B. Elected by the Members of the General Assembly resident in the Provincial District of Auckland.

C. Elected by Graduates.

1. Until May, 1894.
2. Until May, 1895.
3. Until May, 1896.
4. Until May, 1897.

Auckland Univ. Coll. 2-10-12 g

330593

Professors and Lecturer.

Professors:

Classics.

HENRY ARNOLD TUBBS, M.A. Oxford; sometime Craven Fellow, and Arnold Historical Prizeman.

English.

CHARLES WILLIAM EGERTON, M.A. Dublin; Senior Moderator and Gold Medallist, 1885; Vice-Chancellor's Prizeman in English Prose Composition.

Mathematics.

HUGH WILLIAM SEGAR, B.A. Cambridge; Second Wrangler, 1890; Smith's Prizeman, 1892.

Chemistry and Experimental Physics.

FREDERICK DOUGLAS BROWN, Hon. M.A. Oxford, B.Sc. London, F.C.S.

Biology and Geology.

ALGERNON PHILLIPS WITHIEL THOMAS, M.A. Oxford, F.L.S., F.G.S.; Burdett-Coutts University Scholar.

Lecturer in Music.

CARL GUSTAV SCHMITT, Professore Onorario della Scuola Dantesca Napolitana; Knight Commander Order Crown of Italy; Medallist of the South German Orchestral Competition; late Music Director, Kœnigsburg; Galileian Medallist, University of Florence.

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—o—

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JANUARY, XXXI.		
1	M	
2	T	
3	W	
4	T	Convocation meets at Christchurch.
5	F	
6	S	
7	Su	
8	M	
9	T	
10	W	
11	T	
12	F	
13	S	
14	Su	
15	M	Council meets.
16	T	
17	W	
18	T	
19	F	
20	S	
21	Su	
22	M	
23	T	
24	W	
25	T	
26	F	
27	S	
28	Su	
29	M	
30	T	
31	W	

FEBRUARY, XXVIII.

1	T	
2	F	
3	S	
4	Su	
5	M	
6	T	
7	W	
8	T	
9	F	
10	S	
11	Su	
12	M	
13	T	
14	W	
15	T	
16	F	
17	S	
18	Su	
19	M	Council meets. First meeting of College Council, 1883.
20	T	
21	W	
22	T	
23	F	
24	S	
25	Su	
26	M	
27	T	
28	W	University Senate meets at Dunedin. Applications for *ad eundem* degrees not received after this date.

MARCH, XXXI.

1	T	
2	F	Subject of Bowen Prize Essay given out during
3	S	this month.
4	Su	
5	M	
6	T	
7	W	
8	T	
9	F	
10	S	
11	Su	
12	M	
13	T	Professorial Board meets.
14	W	
15	T	
16	F	
17	S	
18	Su	
19	M	Council meets.
20	T	
21	W	
22	T	
23	F	
24	S	
25	Su	Easter.
26	M	
27	T	
28	W	
29	T	
30	F	
31	S	

APRIL, XXX.

1	Su	
2	M	First Term begins.
3	T	
4	W	
5	T	
6	F	
7	S	
8	Su	Candidates' notice for Honors, for M.A., and for
9	M	B. Mus. Examinations, 1894, not received
10	T	after this date; the fee may be paid up
11	W	to May 1st, or a *treble* fee up to May 8th.
12	T	Professorial Board meets [T, 10th].
13	F	
14	S	
15	Su	
16	M	Council meets.
17	T	
18	W	
19	T	
20	F	
21	S	
22	Su	
23	M	
24	T	
25	W	
26	T	
27	F	
28	S	
29	Su	
30	M	

MAY, XXXI.

1	T	
2	W	
3	T	
4	F	
5	S	
6	Su	
7	M	
8	T	
9	W	
10	T	
11	F	
12	S	
13	Su	
14	M	
15	T	
16	W	
17	T	
18	F	
19	S	
20	Su	
21	M	Council meets. University College opened by
22	T	His Excellency the Governor, 1883.
23	W	
24	T	Queen's Birthday.
25	F	
26	S	
27	Su	
28	M	
29	T	
30	W	
31	T	

JUNE, XXX.		
1	F	
2	S	
3	Su	
4	M	
5	T	
6	W	
7	T	Canterbury College buildings opened, 1877.
8	F	
9	S	
10	Su	
11	M	
12	T	Professorial Board meets.
13	W	
14	T	
15	F	
16	S	
17	Su	
18	M	Council meets.
19	T	
20	W	
21	T	
22	F	
23	S	
24	Su	
25	M	
26	T	
27	W	
28	T	
29	F	
30	S	

JULY, XXXI.

1	Su	
2	M	
3	T	
4	W	
5	T	Otago University's First Session opened, 1871.
6	F	
7	S	
8	Su	
9	M	
10	T	Professorial Board meets. First Term ends.
11	W	
12	T	
13	F	
14	S	
15	Su	
16	M	Council meets.
17	T	Canterbury School of Agriculture opened, 1880.
18	W	
19	T	
20	F	
21	S	
22	Su	
23	M	
24	T	
25	W	
26	T	
27	F	
28	S	
29	Su	
30	M	Second Term begins.
31	T	

AUGUST, XXXI.

1	W	Public presentation of University Diplomas in this month.
2	T	
3	F	
4	S	
5	Su	
6	M	
7	T	
8	W	
9	T	
10	F	
11	S	
12	Su	
13	M	
14	T	Undergraduates exempted under Statue "Terms and Lectures" must give notice by the 15th to the College Registrar of their intention to come up for Annual Examination.
15	W	
16	T	
17	F	
18	S	
19	Su	
20	M	Council meets.
21	T	
22	W	
23	T	
24	F	
25	S	
26	Su	
27	M	
28	T	
29	W	"New Zealand University Act, 1874."
30	T	
31	F	

SEPTEMBER, XXX.

1	S	Candidates' Notices for November Degree and Scholarship and Law Professional Examinations not received by the University Registrar after this date, except with *treble* fee up to September 8th.
2	Su	
3	M	
4	T	
5	W	
6	T	
7	F	
8	S	
9	Su	"New Zealand University Act, 1870."
10	M	
11	T	Professorial Board meets.
12	W	"Auckland University College Act, 1882."
13	T	
14	F	
15	S	
16	Su	
17	M	Council meets.
18	T	
19	W	
20	T	
21	F	
22	S	
23	Su	
24	M	
25	T	
26	W	
27	T	
28	F	
29	S	
30	Su	

OCTOBER, XXXI.		
1	M	Last day of receiving Notices for College Annual Examination.
2	T	
3	W	
4	T	
5	F	
6	S	
7	SU	
8	M	
9	T	Professorial Board meets.
10	W	
11	T	
12	F	
13	S	
14	SU	
15	M	Council meets.
16	T	
17	W	
18	T	
19	F	
20	S	
21	SU	
22	M	
23	T	
24	W	Candidates for December University Examinations and for Medical Professional Examinations must send in notices and fees to the University Registrar by 24th, or with *treble* fee up to November 1st.
25	T	
26	F	
27	S	
28	SU	
29	M	
30	T	
31	W	

NOVEMBER, XXX.

1	T	
2	F	
3	S	
4	Su	
5	M	
6	T	
7	W	
8	T	
9	F	Prince of Wales' Birthday.
10	S	Second Term ends.
11	Su	
12	M	
13	T	
14	W	
15	T	
16	F	
17	S	
18	Su	
19	M	Council meets.
20	T	
21	W	
22	T	
23	F	
24	S	
25	Su	
26	M	
27	T	
28	W	
29	T	
30	F	

DECEMBER, XXXI.

1	S	Bowen Prize Essays must be sent to the University Registrar during this month.
2	Su	
3	M	
4	T	
5	W	
6	T	
7	F	
8	S	
9	Su	
10	M	Council meets.
11	T	
12	W	
13	T	
14	F	
15	S	
16	Su	
17	M	
18	T	
19	W	
20	T	
21	F	
22	S	
23	Su	
24	M	
25	T	Christmas.
26	W	
27	T	
28	F	
29	S	
30	Su	
31	M	

Auckland University College.

HISTORICAL SKETCH.

THE first introduction of University Education into New Zealand was effected by the Superintendent and Provincial Council of Otago, who, in 1869, passed an Ordinance under which the University of Otago was established. Following closely on the founding of this institution was the establishment of the University of New Zealand under an Act of the General Assembly, "The New Zealand University Act, 1870." This University subsequently received a Royal Charter, whereby the Degrees which it confers are declared entitled to "rank, precedence, and consideration" throughout the British Empire, "as fully as if the said Degrees had been conferred by any University of the United Kingdom." It was apparently contemplated by Parliament *(vide* section 19 of the Act last quoted) that the New Zealand University and the Otago University should be amalgamated; but the negotiations for this purpose having failed, the two institutions remained for some time distinct bodies. In the year 1874, however, the University of Otago surrendered or put in abeyance its power of conferring Degrees, and became affiliated to the University of New Zealand; and at the same time it was stipulated that the University of New Zealand should not directly exercise functions of teaching.

In the year 1873 the Superintendent and Provincial Council of Canterbury passed an Ordinance for founding "The Canterbury College"; and the College was accordingly established with the same standard of University education as that of the University of Otago, but without the power of conferring Degrees.

In December, 1878, a Royal Commission on University and Secondary Education was appointed by the Governor of New Zealand. This Commission, of which Sir George Maurice O'Rorke was Chairman, met in January, 1879, and on the 9th of July following reported that two Colleges, with an income of

£4,000 each, ought to be established in Auckland and Wellington, and that suitable buildings, at a cost of £12,500 each, should be erected in those cities. In the following year the Royal Commission repeated these recommendations.

"The Auckland University College Act, 1882," which became law on the 13th of September in that year, definitely established the College, and endowed it with a statutory grant of £4,000 per annum. By "The Auckland University College Reserves Act, 1885," three blocks of land, containing about 10,000 acres each, and a block containing about 354 acres, which had been devoted to the purpose of promoting higher education in the Province of Auckland, are vested in the Council of University College.

The Auckland University College was affiliated to the University of New Zealand, by the Senate of the University, on the 6th of March, 1883; and on the 21st of May in the same year the College was opened by His Excellency the Governor of New Zealand, Sir William F. Drummond Jervois, G.C.M.G.

The recommendation made by the Royal Commission that College buildings should be erected, has not been carried into effect. The building in Eden Street, which was formerly the District Courthouse, was in 1883 placed at the disposal of the College Council by the Government, for the purposes of the College work. The large room of this building is formed into a lecture-hall, and additions have been made for the formation of laboratories. In 1884 a second lecture-room was obtained in the house known as "Admiralty House," situate in Jermyn Street; the temporary use of which was granted by the Government with the sanction of the Naval authorities. In November, 1886, the College Council acquired, from the Council of the Auckland Institute, the tenure by lease of the building in Princes Street adjacent to the Auckland Museum; and into this building, when duly prepared and, as far as possible, adapted to the purpose, the Natural Science department of the College was removed in the early part of the year 1887. In "The Special Powers and Contracts Act, 1885," the Governor was empowered, when the offices then occupied by the Survey and Crown Lands Departments in Auckland should be vacated, to transfer, as a site for College buildings, the parcel of land in which those offices and the lecture-room first mentioned above are situate, and which is bounded by Parliament Street and

Beach Road, containing an area of 1 acre and 11 perches. This transfer was carried into effect in the year 1890; and by an expenditure of about £1,200 the premises have been rendered approximately adequate to the present requirements of the College.

The Governing Body of the College is constituted and incorporated by the Act of 1882, and is styled "The Auckland University College Council." It consists of eleven members, two of whom are *ex officio*, viz., the Mayor of the city of Auckland and the Chairman of the Auckland Board of Education. The other nine form three groups, consisting of three members each, viz., three elected by the Members of the General Assembly resident in the Provincial District of Auckland, three appointed by the Governor in Council, and three elected by the Graduates of the New Zealand University on the books of the College. These last three members were appointed by the Governor in Council, until the College numbered thirty Graduates. Elections were made by the Graduates for the first time in 1890. One member of each group retires annually. The Minister of Education is the Visitor of the College. The Chairman of the Council is elected annually. The Council meets statedly at least once a month, five members forming a quorum. "The Professorial Board," which is constituted by the Act, possesses, "subject to the approval of the Council," the power of fixing the course of study and the days and hours of lectures and examinations, and prescribing the subjects of examination for scholarships, exhibitions, and prizes; and it has, "subject to a right of appeal to the Council," a general control over the discipline of the students, the management of the library, and the direction of the College servants. It elects a Chairman annually. Each Professor or Lecturer is entitled to receive, in addition to his salary, the fees that are paid by students for attendance at his lectures.

Mr. Thomas Bannatyne Gillies, a Judge of the Supreme Court of New Zealand, who had been for many years an eminent colonist, presented to the College Council, in the year 1884, the sum of £3,000 (three thousand pounds), for the purpose of founding two Science Scholarships, to be called respectively the "Sinclair" and the "Gillies" Scholarship. They were so named in memory of Dr. Andrew Sinclair, uncle of the late Mrs. Gillies, and in memory of Mrs. Gillies herself.

This munificent gift was forthwith utilized in the manner prescribed; but these Scholarships are for the present in abeyance because of the insufficiency of the income.

The Auckland Amateur Opera Club, in the year 1890, presented to the College Council the sum of two hundred guineas to be expended in that and the two following years for the encouragement of the study of Music. Money Exhibitions, accordingly, were granted, to be competed for by students attending or about to attend the classes of the School of Music in the College. The results are considered to be very satisfactory. The Countess of Onslow, in 1891, gave two silver medals to be awarded to the most deserving of those students in the Music classes whom the Regulations excluded from competing for Exhibitions. Similar gifts have been made for the years 1892, 1893, 1894.

The Rev. Thomas Buddle, Principal of Wesley College, near Auckland, a member of the College Council, died on the 26th of June, 1883. He had been appointed to the Council by His Excellency the Governor in February of that year, a few months before the opening of the College, and had taken an active part in the initiatory arrangements and in the commencement of the collegiate work. He was succeeded, both in the Principalship of Wesley College and in membership of the Council of University College, by the Rev. Alexander Reid. Mr. Reid was thenceforward an assiduous member of the College Council until the time of his death, which occurred on the 25th of August, 1891. On the 4th of December of the same year the death of the Honorable Sir Frederick Whitaker, K.C.M.G., removed a most distinguished colonist who was one of the founders of this College. He was Premier of New Zealand when "The Auckland University College Act, 1882," was introduced by the Government; and by his co-operation the first promoter of the movement, Sir George Maurice O'Rorke, B.A., was enabled to bring it to a successful issue. Sir Frederick Whitaker became a member of the College Council in the year 1886, being unanimously elected by the constituent members of the General Assembly. He was afterwards similarly re-elected, and he continued to render his valuable services in that capacity until the end of his life.

AUCKLAND UNIVERSITY COLLEGE ACT.

Title. AN ACT to promote the Advancement of Learning and to extend the Benefits connected with University Education to the Provincial District of Auckland.

[13*th September*, 1882.]

Preamble. WHEREAS it is expedient to make provision for the advancement of learning, by the extension of the benefits connected with University Education to the Provincial District of Auckland:

BE IT THEREFORE ENACTED by the General Assembly of New Zealand in Parliament assembled, and by the authority of the same, as follows:—

Short Title. 1. The Short Title of this Act is "The Auckland University College Act, 1882."

Establishment of College. 2. There shall be established within the City of Auckland, or within five miles thereof, a College, to be connected with the University of New Zealand.

Constitution of Council. 3. A Governing Body composing as hereinafter mentioned shall be and is hereby constituted a body politic and corporate by the name of "The Auckland University College Council," by which name such body corporate shall have perpetual succession and a common seal.

Of what College consists. 4. The Corporation shall consist of the members of the Council of the College, the members of its Professorial Board, the graduates of the New Zealand University on the books of the College, and the matriculated students.

Graduates may keep their names on College books.

5. It shall be lawful for graduates of the New Zealand University, whether admitted by examination or *ad eundem* degree, who may not have been educated at the said College but who reside within the Auckland Provincial District, to put and keep their names on the books of the College, upon payment of such fees as may be fixed by the Council.

Appointment of Council

6. The Council shall consist of eleven members, one of whom shall be the Mayor for the time being of the City of Auckland, another shall be the Chairman for the time being of the Education Board of the District of Auckland, and of the remaining nine members (divided into three equal groups) three shall be elected by members of the General Assembly resident in the Provincial District of Auckland, three others shall be appointed by the Governor in Council, and the remaining three shall be elected by the graduates of the University on the books of the College.

Election of Members.

The first election of members of the Council by members of the General Assembly shall be held in such manner as the Governor in Council shall direct; and subsequent elections by members of the General Assembly shall be conducted by the Council, in such manner as the Council thinks fit.

Until there are thirty graduates the Governor in Council shall appoint the graduates' members.

Provided always that no professors of the College shall be eligible to hold office as members of the Council.

Visitor.

7. The Minister of Education for the time being shall be the Visitor of the said College, and shall have full power and authority to do all those things which pertain to Visitors as often as to him shall seem meet.

Term of office and retirement by lot.

8. The ordinary term of office of members of the Council shall be three years.

On every anniversary day of the opening of the College one member of each group shall retire from office.

Retirement by seniority.

The members to retire in the first and second years shall be decided by lot, but at the end of the second year only the two members of each group longest in office shall cast lots. In every subsequent year the member in each group longest in office shall retire.

Every retiring member shall be eligible for re-appointment or re-election.

Casual vacancies how filled.

9. A casual vacancy occurring in any group of members shall be filled up by appointment or election, as the case may be; and the member so appointed or elected shall remain in office as long as the vacating member would have retained the same if no vacancy had occurred.

Governor to make regulations for conduct of elections.

10. As soon as there are thirty graduates the Governor in Council shall make regulations for the conduct of the election of graduates' members, and may from time to time thereafter make, alter, or abolish regulations as he may think fit for the election of such members.

Conduct of elections.

11. The Council shall conduct the election by graduates of persons to be members of the Council, and shall fix the time of election within thirty days of the occasion of an election arising, and shall receive votes from absent graduates by means of voting-papers.

The Governor in Council shall, in all cases where it devolves upon him to fill up vacancies in the Council, make the appointment within thirty days of the vacancies being reported to him by the Chairman of the Board, whose duty it shall be to report every vacancy forthwith.

Election of Chairman of College Council.

12. The Council shall elect out of its own body a Chairman, who shall hold office for such period, not

exceeding the term of his membership of the Council, as the Council shall have previously determined.

Council may adjourn, etc.

13. The Council may adjourn from time to time, and may from time to time make, alter, and revoke rules for the conduct of their business.

Quorum fixed.

14. The quorum of the Council shall be five.

15. The Council shall meet at least once in every calendar month, at such time and place as shall be determined by the Council.

First meeting of Council.

The Governor in Council to determine the time and place of the first meeting.

Special meetings.

Special meetings may be called at any time by the Chairman, or by any two members of the Council, twenty-four hours' notice to hold such special meeting being given to every member of the Council.

Forfeiture of seat.

16. Any member who shall fail to attend for a period of three consecutive months, without leave of absence from the Council, shall cease to be a member of such Council, and his seat shall be filled up in the manner provided for filling up vacancies.

Proceedings of Council.

17. All questions which shall come before the Council shall be decided by the majority of members present.

At any such meeting the Chairman of the Council shall preside, and shall have a vote, and in case of an equality of votes, a second or casting vote.

In the absence of the Chairman an acting Chairman shall be chosen by the members present, who shall also have a second or casting vote.

The Council may continue to act notwithstanding there is a vacancy in their body.

Minutes of proceedings and accounts to be kept.

18. The said Council shall cause exact minutes of all their proceedings to be kept, and also full and accurate accounts of all their receipts, disbursements, liabilities, and engagements, and shall in the month of January in every year cause the same to be audited by such person as the Governor in Council may appoint.

Copies of such accounts shall be forwarded to the Minister of Education to be laid before the General Assembly at its next session, together with the annual report.

Council to appoint and remove professors, etc.

19. The Council shall have full power to appoint and remove all professors, lecturers, examiners, officers, and servants of the college, and generally manage the business thereof.

Custody of seal.

20. The common seal of the College shall be entrusted to the Chairman for the time being, and shall not be affixed to any document except by order of the Council.

Professorial Board.

21. There shall be a Professorial Board of the College, consisting of all the professors of the College and of such lecturers (if any) not exceeding two, as the Council of the College shall appoint to be members of the Board.

The Council shall convene, as soon as it thinks fit, the first meeting of the Professorial Board. The Board to have power to make regulations as to the time and place of all its meetings after the first, and may from time to time make, alter, and revoke regulations for the conduct of the business.

The Professorial Board shall elect one of themselves to be Chairman of the Board, to hold office for one year.

The Chairman to have an original as well as a casting vote, and to take minutes of the proceedings of the Board.

In his absence at any meeting, the professors present may choose one of their number to be Chairman of that meeting.

Powers of Professorial Board.

22. In addition to the powers hereinbefore conferred by this Act on the Professorial Board, the following powers may be exercised by the Board subject to the approval of the Council:—

(1) To fix the course of study and the days and hours of lectures and examinations, and make all necessary regulations with regard to the attendance of the students;

(2) To prescribe the subjects of examination for scholarships, exhibitions, prizes, and other College distinctions or awards:

And the following powers subject to a right of appeal to the Council:—

(1) To deal with all questions relating to the discipline of the students;

(2) To make regulations for the management of the College Library;

(3) To give such instructions as may be necessary to the College servants.

Board to furnish information to Council.

23. The Board shall furnish to the Council such information as the Council may from time to time require or the Board may deem necessary; and also offer such suggestions for the consideration of the Council as the Board may think advisable.

Fees may be taken.

24. It shall be lawful for the professors and lecturers in the College, in addition to their stipends, to receive from the students in the said College such reasonable fees for attendance on their lectures as shall from time to time be prescribed by the Council of the College; and it shall be the duty of the Registrar or Secretary of the College to collect the fees and pay them over to the professors and lecturers entitled to receive the same.

College Council to report annually.

25. The Council of the College shall every year before the thirty-first day of March, report their proceedings of the previous year ending the thirty-first day of December to the Minister of Education.

A copy of such report shall be laid before both Houses of Parliament within one month after the same shall be received if Parliament be then sitting, or, if not then sitting, within one month after the next meeting of Parliament.

APPROPRIATION.

Colonial Treasurer to pay £4,000 per annum for maintaining University College.

26. The Colonial Treasurer shall every year pay out of the consolidated revenue the sum of four thousand pounds, as a fund for maintaining the said College, and towards paying the several stipends which may be appointed to be paid to the several professors, lecturers, examiners, officers, and servants to be appointed by the Council of the College; and towards paying the expenses of such scholarships, exhibitions, and prizes as shall be awarded for the encouragement of students at such College; and towards discharging all necessary charges connected with the management of the College.

AUCKLAND UNIVERSITY COLLEGE RESERVES.

AN ACT to provide for the Application of certain University Reserves in the Provincial District of Auckland, towards the Maintenance of the Auckland University College. Title.

[14*th September*, 1885.]

WHEREAS certain land reserves in the Province of Auckland, and in the Schedule to this Act specified, were reserved and set aside for the purpose of promoting higher education in the said province, in such manner as the General Assembly might from time to time determine: And whereas the name of the district formerly called "The Province of Auckland" has been changed by an Act of the General Assembly to "The Provincial District of Auckland": And whereas by "The Auckland University College Act, 1882," a college, now affiliated to the University of New Zealand, was established in and for the Provincial District of Auckland, and such college is now in active operation: And whereas it is desirable that the aforesaid reserves should be utilized for the purpose of adding more departments of learning to the college than can be at present maintained, and for increasing the staff of professors, and for generally extending the usefulness of the said college: Preamble.

BE IT HEREFORE ENACTED by the General Assembly of New Zealand in Parliament assembled, and by the authority of the same, as follows:—

1. The Short Title of this Act is "The Auckland University College Reserves Act, 1885." Short Title.

2. All enactments of the General Assembly relating Repeal.

to the lands described in the Schedule to this Act, and inconsistent therewith, are hereby repealed.

Lands vested in Council upon trust.

3. The lands described in the Schedule hereto are hereby vested in the Auckland University College Council upon trust for the Auckland University College, subject to any leases of any part thereof heretofore granted or agreed to be granted.

Power to lease.

4. It shall be lawful for the said Council from time to time, with the consent of the Governor, to demise or lease the said lands or any part thereof for any term not exceeding twenty-one years, to take effect on possession at a reasonable yearly rental without taking any fine or premium for the making of any such lease, but with power to provide for the releasing the said lands or any part thereof for the further term of twenty-one years, the incoming tenant to pay full value for the improvements to the outgoing tenant, such value to be ascertained by arbitration as may be defined in the lease.

Moneys heretofore derived, how applied.

5. All moneys heretofore derived by way of rent or otherwise from the said lands or any portion thereof, shall be paid over to the Treasurer for the time being of the Auckland University College Council, to be applied by the said College for the purpose of the said College.

SCHEDULE.

PROVINCIAL DISTRICT OF AUCKLAND.

County of Waikato.

Schedule.

ALL that parcel of land containing ten thousand (10,000) acres, more or less, being Allotment Number four hundred and sixty-three (463), in the Parish of Taupiri, and bounded towards the North by Allotments Nos. 396, 395, 394, 393, 392, 391, 390, by a road, and by a line to the north-western angle of Allotment No. 182; towards the East, North-east, and South-east by Allotments Nos. 182, 183, and 184, by a road, by Allotments

Nos. 196, 196A, by a road, by Allotments Nos 191, 189, and 188, by a road, by Allotment No. 464, by the Mangawarra River, by Allotments Nos. 451, 450, by a line to the continuation of the road forming the eastern boundary of Allotment No. 445, by the said road, and Allotment No. 455 aforesaid; towards the South by a line from the south-western angle of the said Allotment No. 455 to the road forming the north-western boundary of Allotment No. 445, by that road, and by Allotments Nos. 66, 64, and 63; and towards the West by Allotments Nos. 62, 61, 60, 59, 58, 57, by the abutment of a road, by Allotments Nos. 56, 55, 54, and 53, by a road, by the eastern shore of Lake Hakanoa, by a line to the south-eastern angle of Allotment No. 4, by the said Allotment No. 4, and Allotment No. 5, by the southern and eastern shores of Lake Kimihia, and by a line to the south-western angle of Allotment No. 396, the commencing point. Schedule.

Subject nevertheless to s[illegible] be at any time required for the use of offices at present occupied by the Survey Departments at Auckland being vacated, by the said Auckland University College Council, as a site for University College buildings, all that piece or parcel of land being called or known as Lot No. 1, Section No. 12, of the City of Auckland, and containing by admeasurement 1 acre and 11 perches, more or less. Bounded on the North-west by Eden Street, 667 links; towards the North-east by Beach Road, about 183 links; towards the South-east by Lots Nos. 2A, 2 and 3 of Section No. 12 aforesaid, 648 links; and thence towards the South-west by Parliament Street, 133 links, to the commencing point: be all the aforesaid linkages more or less; together with any buildings or tenements erected thereon.

College Regulations.

1. There shall be in each year three Terms.* The First Term shall begin on the first day of March, and end on the tenth of May. The Second Term shall begin on the first day of June, and end on the tenth of August. The Third Term shall begin on the first day of September, and end on the tenth of November.

There shall be for the year 1894 two Terms. The First Term shall begin on Monday, the second day of April, and end on Saturday, the fourteenth day of July (15 weeks). The Second Term shall begin on Monday, the thirtieth day of July, and end on Saturday, the tenth of November (15 weeks).

2. The fees for lectures shall be ten shillings per Term for a course occupying one hour per week, one pound per Term for a course occupying two hours per week, and so on proportionally. For laboratory instruction the fees shall be ten shillings per Term for one half-day per week, one pound per Term for two half-days per week, and so on proportionally. Provided that attendance at a course of lectures during the First and Second Terms shall entitle to exemption from payment of fee for attendance at a course of lectures on the same subject and not occupying a greater amount of time per week during the Third Term; and similarly as to attendance in laboratory.

3. On payment of the fee at the office of the College a card of admission shall be issued, which must be countersigned by the Professor or Lecturer. No student is entitled to attend at lectures or in laboratory until he shall have complied with this regulation. The first lecture, however, of every course will be free.

4. Admission to lectures or laboratory shall not be restricted to matriculated students, but shall be available to all persons who shall have paid the prescribed fees.

* In 1894 the Terms are two; the First commencing on April 2, and ending July 14; the Second commencing July 30, and ending November 10.

5. Every student who shall have attended a course of lectures or laboratory instruction during at least two Terms of the year shall be entitled to be examined at the Annual Examination in the subject of that course without payment of any examination fee.

6. Each Professor and Lecturer shall keep a roll showing the number and names of the students present at each lecture. These rolls shall be laid on the table at each meeting of the Council, and shall be collected by the Registrar at the end of each Term and preserved for reference.

7. Every student shall be deemed to have kept the Terms of the year, who shall have attended in each Term at least two-thirds of the prescribed Lectures in each of three subjects specified in the following list of subjects, and shall have passed the Annual Examination in any three such subjects :—

1. Latin
2. Greek
3. English
4. French or German
5. General History and Political Economy
6. Jurisprudence and Constitutional History
7. Pure Mathematics
8. Applied Mathematics
9. Physical Science
10. Chemistry
11. Biology
12. Geology
13. Mental Science
14. Music.

8. Students exempted by University Statute from attendance at lectures shall be entitled to be accredited with having kept the Terms of the Year by passing in any three of the subjects above specified.

9. Any student who shall have passed the First Section of the University Examinations for the Degree of Bachelor of Arts or for the Degree of Bachelor of Science in four subjects shall not be required to keep Terms in more than two of the subjects above specified.

10. Attendance at one of the College Laboratories during three hours per week, together with subsequent passing of the Annual Examination in the practice of the corresponding science, shall count as a subject towards the keeping of Terms.

11. No student who at the Annual Examinations shall have passed in any subject in each of two years, shall be allowed to select the same subject for examination in another year, unless there shall have been given in that year a third year's course of instruction in that subject.

12. As soon as practicable after the Annual Examination there shall be published a list of those persons who shall be accredited with having kept the Terms of the year, and also lists of those who shall have passed the examinations respectively in the several subjects. In each subject there shall be three Classes of merit, the First Class being the highest; but in each Class the names shall be placed in alphabetic order.

13. The Annual Examination shall be held in the last part of the Third Term, at such time, approved by the Council, as will allow the publication of the complete results by the last day of the Term.

14. A fee of one guinea shall be paid for the Annual Examination in each subject which the candidate shall select, and on which he shall not have attended lectures.

15. Notices for the Annual Examination from students who shall have attended lectures during the year, shall be delivered to the Registrar not later than the first day of October.*

* As to students exempt from attendance at lectures see University Statutes "Terms and Lectures," Section III.

PREMIUMS.*

16. There shall be awarded, after the Annual Examination, seven Premiums of the value of three guineas each, consisting of books or scientific instruments, in the following subjects:—

Classics
English
Mathematics
Chemistry
Physics
Biology
Geology

17. The prizes shall be severally awarded on the recommendation of the Examining Professor to students who shall have been in the respective classes not more than two years, and who shall have exhibited sufficient merit.

18. Each prize-winner shall be allowed, subject to the approval of the Examiner, to select the books or scientific instruments to be received as a Premium; and if the cost exceed three guineas, the excess shall be defrayed by the student.

19. Each prize volume shall be well-bound and stamped with the College Arms, and shall be distinctively labelled according to the subject in which it shall be awarded. Each scientific instrument awarded shall bear a suitable inscription.

REGULATIONS RESPECTING THE ONSLOW MEDALS.

20. An Onslow Silver Medal is offered for competition to the students of Music of the Senior Division, and will be awarded to the student who shall be classed as first at the Annual Examination in Music at the end of the session of 1894.

* The granting of College Scholarships is discontinued.

21. An Onslow Silver Medal is offered for competition to the students of Music of the Junior Division, and will be awarded to the student who shall be classed as first at the Annual Examination in Music at the end of the session of 1894.

22. Students who have won either a Senior Onslow Medal or a Junior Onslow Medal shall not be allowed to compete again for a Medal of the same denomination; but the winner of a Junior Medal may compete for a Senior Medal.

REGULATIONS RESPECTING THE COLLEGE LIBRARY.

23. The Library shall be open every day during Term from 10 a.m. until 8 p.m., except Saturday, when it shall be closed at 1 p.m.

24. A catalogue of the books shall be kept on the table.

25. No person shall make any mark in or upon any book, or fold down a leaf, or otherwise deface any book belonging to the Library. No one shall lay the paper on which he is writing on the book he is using.

26. No person except a member of the Auckland University College, unless he be a student attending lectures, shall be permitted to use the Library.

27. All books, except such as may be specially reserved, may be taken out of the Library; but no person shall have in his possession more than two volumes at a time. Nor shall he retain a book for a longer period than seven days.

28. Text-books prescribed for the current year shall in no case be removed from the Library.

29. Before removing a volume the borrower shall enter in a book to be kept in the Library his name, the title of the volume

and the date of removal. He shall be responsible for its safe return, or in the event of damage or loss shall be liable to replace it at his own cost.

30. A Notice-book shall be provided in the Library, in which a student desirous of obtaining a book already in circulation may enter his name and the title of the book desired. No person on returning a volume to the Library shall borrow it for a second period, unless he shall have satisfied himself by reference to the Notice-book that the volume is not otherwise required.

Annual Examination.

After the Annual Examination held in October and November, 1893, the following Students were accredited with having kept the Terms of the year:—

ADAMS, Alan A.
BARCLAY, William John[3]
BEALE, Arundel Mary[3]
CHOYCE, Charles Coley
COUSINS, Herbert Glanville
CURRIE, Janet Reid
DAVIS, Eliot Rypinskie[4]
DRUMMOND, James[1, 2, 3]
DRUMMOND, Peter
DUDLEY, Eleanor Dorothy[3]
EDENBOROUGH, Edith
EVES, Charles Arthur
GATENBY, William Joshua[3]
GERKENS, Teresa Catherine Burgoyne[3]
GRANT, Agnes Lilian[3]
HEATHER, Charles Herbert
KEANE, Hilda Emma
LAWS, Charles Henry[3]
LIVESEY, Cecil Edleston
LIVESEY, Florence Ellen
MACKY, Samuel Henry
MAHON, Harold James Del Monte[3]
MAJOR, Charles Thomas, M.A.
MAJOR, Henry Dewsbury Alves[3]
MOIR, Peter
MULGAN, Edward Ker[3]

1. University Junior Scholarship.
2. College Senior Scholarship.
3. Has passed Section or Sections of Examination for Degree.
4. Amateur Opera Club Exhibition.

PICKEN, Winifred[1, 3]
RILEY, Eveline Charlotte
ROCKEL, Robert Hermann[3]
WELLS, Tom Umfrey
WOODWARD, Alice
YOUNG, Henry Aiken.

The Students who passed in the several subjects at the Annual Examination of the year 1893 were classified as follows:—

LATIN.

CLASS I.

BARCLAY, William John[3]
DRUMMOND, James[1, 2, 3]
MAHON, Harold J. D. M.[3]
ROCKEL, Robert H.[3]

CLASS II.

CURRIE, Janet R.
DRUMMOND, Peter
EDENBOROUGH, Edith
EVES, Charles A.
GRANT, Agnes L.[3]
HEATHER, Charles H.
KEANE, Hilda E.
LIVESEY, Cecil E.
LIVESEY, Florence E.
RILEY, Eveline C.
SHROFF, Alfred H.
WELLS, Tom U.
WILLIAMS, Harold W.
YOUNG, Henry A.

CLASS III.

CARSON-DUNNING, Alec.

ANNUAL EXAMINATION.

GREEK.

Class I.

Barclay, William J.[3]

Class II.

Heather, Charles H.
Livesey, Cecil E.
Williams, Harold W.

ENGLISH.

Class I.

Barclay, William J.[3]
Drummond, James[1, 2, 3]
Drummond, Peter
Dudley, Eleanor D.[3]
Gatenby, William J.[3]
Mahon, Harold J. D. M.
Rockel, Robert H.[3]

Class II.

Currie, Janet R.
Cousins, Herbert G.
Davis, Eliot R.[4]
Eves, Charles A
Grant, Agnes L.[3]
Heather, Charles H.
Lily, James O.
Livesey, Florence E.
Riley, Eveline C.
Young, Henry A.

Class III.

Carson-Dunning, Alec.

FRENCH.

CLASS I.

ADAMS, Alan A.
PICKEN, Winifred.[1, 3]

CLASS II.

BEALE, Arundel M.[3]
CURRIE, Janet R.
GERKENS, Teresa C. B.[3]
MACKY, Samuel H.
RILEY, Eveline C.

CLASS III.

EDENBOROUGH, Edith.

GENERAL HISTORY AND POLITICAL ECONOMY.

CLASS I.

ROCKEL, Robert H.[3]
WELLS, Tom U.

CLASS II.

ADAMS, Alan A.
LIVESEY, Florence E.
LOW, David W.

JURISPRUDENCE AND CONSTITUTIONAL HISTORY.

CLASS I.

ADAMS, Alan A.
LAWS, Charles H.[3]
WELLS, Tom U.

CLASS II.

YOUNG, Henry A.

PASS MATHEMATICS.

Class I.

Barclay, William J.[3]
McCullough, Robert A.[1, 2, 3]

Class II.

Drummond, Peter
Eves, Charles A.
Gatenby, William J.[3]
Grant, Agnes L.[3]
Laws, Charles H.[3]
Mahon, Harold J. D. M.[3]

Class III.

Cousins, Herbert G.
Davis, Eliot R.[4]
Edenborough, Edith
Gerkens, Teresa C. B.[3]
Macky, Samuel H.
Shroff, Alfred H.

APPLIED MATHEMATICS.

Class I.

Dudley, Eleanor D. [3]
Gatenby, William J. [3]
McCullough, Robert A. [1, 2, 3]
Mulgan, Edward Ker [3]
Picken, Winifred. [1 3]

Class III.

Low, David W.

ADVANCED MATHEMATICS.

Class III.

Picken, Winifred. [1, 3]

EXPERIMENTAL PHYSICS.

Class II.

Choyce, Charles C.
Crosher, Archibald T.

Class III.

Moir, Peter
Woodward, Alice.

PRACTICAL PHYSICS.

Barber, Edward H.
Choyce, Charles C.
Crosher, Archibald T.
Gerkens, Teresa C. B. [3]
Moir, Peter
Woodward, Alice.

CHEMISTRY.

Class I.

Drummond, Peter
Mahon, Harold J. D. M. [2]
Major, Charles Thomas, M.A.

CLASS II.

CHOYCE, Charles C.
DAVIS, Eliot R. [4]
MOIR, Peter.

PRACTICAL CHEMISTRY.

SENIOR.

DAVIS, Eliot R. [4]
MAHON, Harold J. D. M. [3]

JUNIOR.

CHOYCE, Charles C.
COX, Frederick G.
DRUMMOND, Peter
MAJOR, Charles Thomas, M.A.
MOIR, Peter
WOODWARD, Alice.

BIOLOGY.

CLASS II.

BEALE, Arundel M. [3]
CHOYCE, Charles C.
FROST, Constance H.
KEANE, Hilda E.
MACKY, Samuel H.
WOODWARD, Alice.

PRACTICAL BIOLOGY.

SENIOR.

MACKY, Samuel H.

JUNIOR.

BEALE, Arundel M. [3]
CHOYCE, Charles C.
FROST, Constance H.
KEANE, Hilda E.
WOODWARD, Alice.

GEOLOGY.

CLASS I.

LAWS, Charles H. [3]
MAJOR, Charles Thomas, M.A.
MAJOR, Henry D. A.
MULGAN, Edward K. [3]

CLASS II.

LIVESEY, Cecil E.

CLASS III.

COUSINS, Herbert G.
DOVETON, Godfrey D.

PRACTICAL GEOLOGY

SENIOR.

LAWS, Charles H. [3]
MAJOR, Charles Thomas, M.A.
MAJOR, Henry D. A.
MULGAN, Edward K. [3]

JUNIOR.

COUSINS, Herbert G.
DOVETON, Godfrey D.
LIVESEY, Cecil E.
PILKINGTON, William A.

MUSIC.

Senior Division.

Class I.

Anderson, E. M.
Bridgewater, Jessie E.
Dyson, Josephine
Harding, Alice M. *
Harper, Frances E. M. *
Jones, Elizabeth R.
Lorrigan, Clara
Philpott, J. H.
Thomson, Lily.

Senior Division.

Class II.

Hackett, Katherine
Wilson, Ethel C.

Junior Division.

Class I.

Cochrane, Sophia M. *
Hamilton, Florence
Reeve, Emily.

Junior Division.

Class II.

Laing, Mary
Peak, Millicent
Trevithick, Winifred A.

AGRICULTURAL SCIENCE.

Brown, A. J.
Darby, Edward J.
Walters, Ernest J.

COLLEGE SCHOLARS.

The College Scholarships of the year 1894 have been awarded as follows:—*

THIRD YEAR SCHOLARSHIP.

DRUMMOND, James, B.A.

SECOND YEAR SCHOLARSHIP.

BARCLAY, William John. [1]

FIRST YEAR SCHOLARSHIP.

DRUMMOND, Peter. [1]

ONSLOW MEDALS.

In the Senior Division, School of Music, the Onslow Medal for 1894 was awarded to

CLARA M. P. LORRIGAN.

In the Junior Division the Medal was awarded to

EMILY REEVE.

UNIVERSITY SENIOR SCHOLARSHIP.

After the Examination held by the University of New Zealand in November, 1892, the Senate awarded 8 (eight) Senior Scholarships, one of which was gained by the following student of the Auckland University College:—

JOHN BOYLE—Chemistry.

* The granting of College Scholarships is discontinued.

UNIVERSITY JUNIOR SCHOLARSHIP.

After the Examination held by the University of New Zealand in December, 1892, the Senate awarded a Junior Scholarship to

PETER DRUMMOND,

who was ranked fifth of the successful candidates, the total number being twelve. Respecting this student the following is extracted from the New Zealand University Calendar, 1893–1894 :—

> "DRUMMOND, P.—Tuition: Auckland College and Grammar School. Subjects: Latin, English, French, Mathematics, Chemistry, Electricity."

THE EXHIBITION 1851 SCIENCE SCHOLARSHIP.

In the year 1892 the Exhibition 1851 Science Scholarship allotted to New Zealand was awarded to

DAVID HAMILTON JACKSON, M.A.,

of the Auckland University College, in Chemistry.

SYLLABUS OF LECTURES.

LATIN (Professor Arnold Tubbs).

Translation.—Lectures will be given throughout the session in the books prescribed for 1894—Tacitus, *Agricola and Germania*, Ovid *Tristia*, Book I.

The editions which will be used as text-books in these lectures are that of the *Agricola* and *Germania*, by Church and Brodribb (Macmillan's), and that of the *Tristia*, by Owen (Clarendon Press). Every student should also be provided with Roby's School Latin Grammar.

Hours of Lectures—Monday and Thursday, 6—7 p.m.

Composition.—Two classes, Junior and Senior, will be formed, and lectures given throughout the session. The Junior course is intended for those students who have not previously received systematic training in Latin Composition, and will deal principally with the syntax of simple and complex sentences. In the Senior course, beside accuracy of syntax, special attention will be given to style of composition, and the standard of difficulty will be that of the B.A. Pass Examination of the University of New Zealand.

Hours of Lectures—Junior Course, Monday, 7—8 p.m.
Senior Course, Thursday, 7—8 p m.

For Honour classes in Latin special arrangements will be made. Honour Students, who desire, may attend Pass Lectures.

GREEK (Professor Arnold Tubbs).

Translation —Lectures will be given throughout the session on the books prescribed for 1894—Herodotus, Book II., and

Æschylus *Prometheus Vinctus*. The edition of Herodotus II., by Woods (Rivingtons), and that of the *Prometheus Vinctus*, by Prickard (Clarendon Press) will be used as text-books.

Hours of Lecture—Tuesday and Friday, 11 a.m.—12.

Composition. — Lectures on Composition will be given throughout the session, the work of the first term being of a more elementary character. Sidgwick's "Greek Prose Composition," will be used as a text-book.

Hour of Lecture.—Tuesday, 12—1 p.m.

Honour classes in Greek may be arranged if required.

ENGLISH LANGUAGE AND LITERATURE.

(Professor Egerton).

The following courses of lectures will be delivered in the session of 1894 :—

1. The Origin, Structure. and History of the English Language. These lectures will be delivered in both Terms. Students are recommended to provide themselves with Sweet's *Anglo-Saxon Reader*, and Sweet's *Primers of First and Second Middle English*, which will be used, in conjunction with printed papers to be supplied in the lecture-room, for illustration, reference, and commentary. Skeat's *Primer of English Etymology* is also recommended as a text-book.

Hour of Lecture—Monday, 12—1 p.m. This lecture will be repeated on Tuesday, 6—7 p.m.

2. The Literature of the latter half of the Eighteenth Century. These lectures will be delivered in both Terms.

Hour of Lecture—Wednesday, 3—4 p.m. This lecture will be repeated on Wednesday, 7—8 p.m.

3. Lectures on the prescribed works of Thackeray and Shakespeare.* The editions of Shakespeare's plays recommended are those of the Clarendon Press.

These lectures will be given in the First Term only.

Hour of lecture—Thursday, 12—1 p.m. This lecture will be repeated on Saturday, 9—10 a.m.

4. Lectures on English Composition. These lectures, principally of a practical nature, will be given during the Second Term in conjunction with practical work given weekly.

Hour of Lecture—Thursday, 12—1 p.m. This lecture will be repeated on Saturday, 9—10 a.m.

Students taking up branches 2, 3, and 4, will be required to write Essays on subjects connected therewith.

Honour Lectures will be arranged if required.

Extra Lectures may be delivered on all or any of the above subjects if necessary.

MATHEMATICS (Professor Segar).

The following courses of lectures will be given:—

Pure Mathematics for degree of B.A., Wednesday, 5 p.m., and Saturday, 10 a.m.

Textbooks—Aldis' Textbook of Algebra; Hall and Stevens' Textbook of Euclid's Elements; Lock's Trigonometry.

*1894—Thackeray—Esmond; Shakespeare—The Merchant of Venice, Julius Cæsar. Period—The latter end of the Eighteenth Century.

Mechanics and Hydrostatics, Wednesday, 6 p.m., Saturday, 11 a.m.

Textbooks—Elementary Statics, J. B. Lock; Dynamics for Beginners, J. B. Lock; Elementary Hydrostatics, W. H. Besant.

For students specializing in Mathematics the following course in Honours Mathematics will be given:—

1st year. Tuesday and Friday, 10 a.m. Subjects—Algebra, Elementary Geometry, and Trigonometry.

Textbooks—Same as for degree of B.A.

2nd year. Tuesday and Friday, 11 a.m. Subjects—Geometrical Conic Sections, Plane Co-ordinate Geometry, and Differential and Integral Calculus.

Textbooks—Besant's Geometrical Conic Sections, Todhunter's Conic Sections, Todhunter's Differential Calculus, Todhunter's Integral Calculus.

3rd year. Monday and Thursday, 12 a.m. Subjects—Solid Geometry, treated geometrically and analytically, Analytical Statics, and Dynamics of a Particle.

Textbooks—Aldis' Solid Geometry, Todhunter's Analytical Statics, Tait and Steele's Dynamics of a Particle.

4th year. Tuesday and Friday, 2 p.m. Subjects—Differential Equations, Geometrical Optics, Astronomy, and extensions of the subjects of the first three years.

Textbooks—Forsyth's Differential Equations, Aldis' Geometrical Optics, Godfray's Astronomy.

The first two years' course, with the lectures on Mechanics, covers the work required for the University Senior Scholarship.

The lectures may be extended, and the times at which they will be given altered, to suit the requirements of students.

CHEMISTRY (Professor Brown).

First Term.

The characteristics of chemical action—The laws of chemical combination—The atomic theory—Atomic weights—Chemical symbols—Empirical, rational, and constitutional formulæ.

The properties and modes of preparation of the following elements and of their more important compounds—Hydrogen—Oxygen, Sulphur, Selenium, Tellurium—Chlorine, Bromine, Iodine, Fluorine;—Nitrogen, Phosphorus, Arsenic, Antimony, Bismuth.

Second Term.

Physical and chemical properties of the following elements and of their more important compounds—Carbon, Silicon, Tin, Titanium, Potassium, Sodium, Calcium, Strontium, Barium, Magnesium, Zinc, Copper, Silver, Mercury, Lead, Aluminium, Manganese, Iron, Nickel, Cobalt, Chromium, Gold, Platinum—Methods of determining molecular weights.

Hours of Lecture—Monday and Thursday, 5—6 p.m.

A course of lectures on Chemistry of a more advanced character, will, if required, be given at some convenient time during the session.

CHEMICAL LABORATORY.

The Laboratory will be open on Tuesdays and Fridays from 2 p.m. to 5 p.m., and from 6 p.m. to 9 p.m., and on Saturdays from 10 a m. to 1 p.m.

Instruction will be given in the Laboratory in all branches of Practical Chemistry including Qualitative and Quantitative Inorganic and Organic Analysis and the preparation of Chemical Products.

Special facilities will be afforded to those who desire to study Practical Chemistry as applied to the different processes employed in the Arts and Manufactures.

All apparatus, gas, fuel, and ordinary reagents will be provided by the College; but a deposit of 10s. will be required from each student, to cover the cost of loss and breakage.

EXPERIMENTAL PHYSICS (Professor Brown).

First Term—*Heat, Light, and Sound.*

Methods of measurement employed in Physics.

Thermometers—Expansion—Absolute temperature—Application of the laws of expansion.

Fusion — Crystallisation — Evaporation — Ebullition — Hygrometry.

Conduction—Radiation.

Calorimetry—Specific Heat—Latent Heat.

Nature, production, and propagation of light—Reflection, refraction, dispersion—Interference, double refraction, and plane polarisation—Principal optical instruments and vision.

Mode of transmission of sound—Velocity of sound—Musical sounds.

Second Term—*Magnetism, Electricity.*

Magnetism—Magnetic Attraction and Repulsion—Magnetic Induction—Measurement of Magnetic Forces—Terrestrial Magnetism.

Frictional Electricity. Fundamental Experiments on Attractions and Repulsions — Phenomena of Induction — Electrical Machines—The Leyden Jar—Measurement of Potential, Capacity, and Quantity — Electrometers — Atmospheric Electricity.

Current Electricity—Galvanometers—Mutual action of Magnets and Currents—Electrolysis—Thermal effects of the Electric Current—Resistance.

Production of Electric Currents—The Voltaic Cell—Thermo-electric Currents—Magneto-electric and Dynamo-electric Machines—Induced Currents.

Application of Electricity to Lighting and Signalling.

A special course of lectures on Sound will be given during the Session. *See syllabus of lectures in School of Music.*

Hours of Lecture—Tuesday and Friday, 12 noon—1 p.m.

Arrangements may be made for instruction in Physics during the evening.

PHYSICAL LABORATORY.

Practical instruction in Physics will, for the present, be given in the Chemical Laboratory, which will be open on Tuesdays and Fridays from 2 p.m. to 5 p.m., and from 6 p.m. to 9 p.m., and on Saturdays from 10 a.m. to 1 p.m.

BIOLOGY (Professor Thomas).

1. General Biology.

Students who take either Botany or Zoology for the B.A. or B.Sc. degree of the New Zealand University are required to

show a knowledge of the elements of General Biology, that is, of the general phenomena of life. The present course of lectures is intended to cover the ground of the paper in General Biology, and will include the following subjects:—

Elements of the structure and physiology of plants and animals. Life-histories of typical forms of life.

Theories of Evolution—Outlines of Geographical Distribution—Succession of life in time.

Hour of Lecture—Wednesday, 6 p.m.

2. Botany.

Students who take Botany for the B.A. degree should attend the three courses *(a)* General Biology, *(b)* Junior Botany, *(c)* Senior Botany. These three courses may be taken in one year, but any student who can devote two years to the subject, may defer attendance at the Senior Botany, and, if necessary, the General Biology also, until the second year. Students, whilst taking Junior Botany only, need not attend the Laboratory.

JUNIOR COURSE.

The form and structure of plants—The flowering plants—The more important orders of native and introduced flowering plants.

Hour of Lecture—Tuesday, 7 p.m.

SENIOR COURSE.

The vegetable tissues—The principal characters of the classes of plants—The structure and life-history of the types of plants prescribed for the Bachelor of Arts Degree.

Hour of Lecture—Monday, 7 p.m.

BOTANICAL EXCURSIONS.

Arrangements will be made for one or more Botanical Excursions during the year.

Textbook—*Prantl and Vines' Textbook of Botany.*

3. ZOOLOGY.

The principal characters of the chief classes and orders of animals—The structure and life-history of typical animals—The elements of comparative embryology—The main facts of the distribution of the Vertebrate animals in time and space.

Hour of Lecture—Thursday, 12 noon.

Textbook—*Claus' Zoology, trans. A. Sedgwick.*

ZOOLOGY (HONORS).

If required, a course of lectures will be given on Animal Morphology, Embryology, and Classification, as prescribed for the Senior Scholarship or Honors in Zoology.

BIOLOGICAL LABORATORY.

The Laboratory will be open during the following hours:—Monday and Thursday, 2 p.m. to 5 p.m.; Wednesday and Friday, 6 p.m. to 9 p.m.; Saturday, 10 a.m. to 1 p.m.

Classes will be formed for the practical work in Botany or Zoology required for the Bachelor of Arts or Bachelor of Science degree. Students who take Botany will not require to perform any animal dissection.

Facilities will be afforded to persons not preparing for examinations, but who desire to learn the use of the microscope and methods of studying plants and animals.

NOTE.—Special aid will be given to those who desire to learn the use of the microscope and the applications of biology in the arts and manufacturer.

GEOLOGY (Professor Thomas).

The ordinary course of instruction for students who take Geology for the B.A. or B.Sc. degree, is completed in one year, and includes two lectures weekly and attendance at the Laboratory twice a week. Those, however, who desire to do so, may spread the practical work over two years, attending once a week.

LECTURES.

History and object of geological study—Crust of the earth—Rocks and minerals—The geological action of air, water, ice, snow, and living organisms—Volcanoes and volcanic action—Earthquakes—Metamorphism—Secular movements of the crust.

Architecture of the earth's crust.

Palæontology—Fossils and their uses—General structure of the classes of plants and animals found in the fossil state—Generalisations of Palæontology and their bearing on the theory of Evolution.

Chronological classification of rocks—Geological eras and periods—Geology of New Zealand—The characteristic features of the geological periods.

Hours of Lectures—Tuesday and Friday, 5 p.m.

Textbook—*Geikie's Class-book of Geology; or, Geikie's Text-book of Geology.*

GEOLOGICAL LABORATORY.

The Laboratory will be open during the following hours:—

Monday and Thursday, 2 p.m. to 5 p.m.; Wednesday and Friday, 6 p.m. to 9 p.m.; Saturday, 10 a.m. to 1 p.m.

SYLLABUS OF LECTURES.

Practical instruction will be given in the following subjects:—The properties and identification of minerals—Rock-forming minerals—Characters of rocks—Structure of typical genera of fossil plants and animals—Characteristic fossils of the geological periods.

Special facilities will be afforded to those who wish to study the ores of the metals, rocks, &c., for the purpose of Mining.

Excursions will be arranged for the study of Field Geology.

SPECIAL LECTURES FOR TEACHERS.

AGRICULTURAL SCIENCE (Professor Thomas).

The Laboratory will be open between 10 a.m. and 1 p.m. on Saturdays.

Teachers, who desire to do so, may go through a course of experiments suitable for the illustration of the Agricultural Science taught in the public schools, or as required for teachers' examinations.

A course of lectures on Agriculture, suitable for candidates who take the subject in the examinations for the D. and E. certificates of the Education Department, will be given at 11.15 a.m. on Saturdays, if a sufficient number of names be given in.

(*a.*) The parts of plants, stems, leaves, roots, flowers, and fruit (with special reference to fruit trees and agricultural plants).

(*b.*) Fertilisation of flowers and formation of seed. Storage of food in seeds, roots, &c. Germination.

(*c.*) Composition of plants. The meaning of the terms organic and inorganic. Elements and compounds. Outlines of chemistry of air and water.

(*d.*) How plants obtain their food. Function of the leaf. Decomposition of carbonic acid. Leaf-green. Importance of water to the plant. Absorption of food by the roots. Action of root hairs.

(*e.*) The soil. How soils are formed. Decay of rocks. Chemical constituents of soil. Subsoil. Humus. The soil as a source of plant-food.

(*f.*) Brief outline of the chemistry of the elements essential to the growth of plants. Influence of light, warmth, and moisture on plant-growth. Bacteria as the cause of decay and fermentation.

(*g.*) Soils: Mechanical analysis of soils. Classification of soils. Good and bad qualities of soils. Influence of mechanical condition of soils on their fertility. Plant-food in the soil, available and dormant.

(*h.*) Tillage: The objects to be attained by tillage. Improvement in the mechanical condition. Importance of a good seed-bed. Chemical changes induced by exposure to the air. Action of bacteria, &c., in the soil. Fallows. Tillage as partly replacing manure. Water in the soil. Capillary action in the soil. Drainage. Possible loss of plant-food in drainage water. Differences in modes of cultivation for light and heavy soils. Plant-food in the soil. Exhaustion of the soil. Principle of application of manures. Principle of rotation of crops. Improvement of the soil.

(*i.*) Manures: Object of manuring. General and special manures. Farm-yard manure, its composition and value. Its liability to ferment; management to prevent loss of value. Vegetable and animal refuse as manures. Green Manuring. Plant-food most frequently wanting in soils. Manures supplying particular kinds of plant-food. Guanos. Special manures supplying nitrogen. Bone manures. Superphosphate and other mineral manures. Action of lime on the soil.

(*j.*) Crops: The characteristics of the commoner crops—cereals, fodder-crops, root-crops. Habit of growth of a plant. Distribution of roots. Principle of adaption of manures to crops.

(*k.*) Importance of good seed. Propagation of plants by cuttings, tubers, bulbs, &c. Objects of grafting and pruning. Insect pests. Insect changes as illustrated by the life-history of common insects. Nature of parasitic fungi.

ELEMENTARY SCIENCE (Professor Brown).

A course of lectures on Elementary Science, adapted to the wants of teachers in the Public Elementary Schools and of candidates for the D and E certificates of the Education Department, will be delivered on Saturdays at 10.15 a m. during the session.

SYLLABUS.

Fundamental Ideas of Matter and Motion.—Mass—Density—Inertia—Force—Momentum—Acceleration—Centrifugal Force—Gravitation—Weight—Work—Energy.

Conditions of Matter—Three States of Matter—Cohesion—The Properties of Solids, such as Porosity, Hardness, Brittleness, Ductility, and Elasticity—The varying Viscosity of Liquids—The Compressibility of Gases—Diffusion—Solution—Crystallisation.

Mechanical Powers.—Lever—Wheel and Axle—Pulley—Inclined Plane—Screw.

Fluid Pressure—Pressure of Liquids—Water Level—Flotation—Measurement of Specific Gravities—Pressure of the Atmosphere—Barometer—Pump—Syphon—Diving Bell.

Sound.—Velocity—Echo—Modes of transmission—Pitch—Resonance.

Light.—Velocity—Reflection from Plane Mirrors—Refraction by Prisms and Lenses—Dispersion.

Heat.—Measurement of Temperature—Expansion—Winds—Evaporation—Steam—Distillation—Conduction—Convection—Radiation—Measurement of Heat Quantity—Specific and Latent Heats.

Magnetism.—Properties of Magnets—Magnetic Induction—Mariner's Compass.

SYLLABUS OF LECTURES.

ELECTRICITY.—Simple ways of producing an Electric Current—Galvanometers—Resistance—Production of Heat in Conductors—Electro-magnets—Currents produced by Induction—Telegraphs—Telephones—Electric Lights.

CHEMISTRY.—Mixtures and Compounds—Combination and Decomposition—Elements and Compounds—Atoms and Molecules—Preparation and Elementary Properties of Hydrogen and Oxygen—Nitrogen—The Air—Burning—Water—Ammonia—Nitric Acid and the Nitrogen Oxides—Chief Properties of Carbon, of Carbon Monoxide, Dioxide, and the simpler Hydro-carbons—Coal Gas—Chief Properties of Sulphur and of Sulphurous and Sulphuric Acids—Chlorine and Hydrochloric Acid,—Acids, Bases and Salts.

MUSIC (Herr Carl Schmitt).

JUNIOR DIVISION

Hours of Lecture—Mondays, 6.15—7.15 p.m.; Wednesdays, 4 p.m., and Fridays, 5 p.m.

Elements of Music: Notes, rests, clefs, intervals, scales, time, abbreviations, and other signs.

Harmony: Common chords, chords of the dominant 7th, dominant 9th, dominant 11th and 13th, suspensions, chords—the augmented 6th, cadences, passing notes, sequences, modulation, harmonizing melodies.

Counterpoint: Single counterpoint; all species in two and three parts.

History of Music.

SENIOR DIVISION—B.

Hours of Lecture—Wednesdays, 3 p.m.

Harmony: Up to four parts.

Counterpoint: In four parts.

Double Counterpoint: Canon and fugue in two parts.

Form: The various forms employed in classical composition

Instrumentation: A knowledge of the compass, capabilities, and quality of tone of the different instruments employed in a modern orchestra

History of Music.

SENIOR DIVISION—A.

For advanced students.

Hours of Lectures—Fridays, 4 p.m.

The above-mentioned lectures are delivered in the Choral Hall, Symond Street.

ACOUSTICS (Professor Brown).

A short course of lectures specially adapted in the requirements of students of Music will be given at some convenient time during the session.

The subjects dealt with in these lectures will be as follows:—

Sensation and external cause of sound—Mode of its transmission—Nature of wave motion in general—Application of the wave theory to sound—Elements of a musical sound—Loudness and extent of vibration—Pitch and rapidity of vibration—Measure of absolute and relative pitch—Resonance—Analysis of compound sounds—Helmholtz's theory of musical quality—Motion of sounding strings—The pianoforte and other stringed instruments—Motion of sounding air columns—Flute and reed stops of the organ—Interference—Beats—Helmholtz's theory of consonance and dissonance—Combination tones—Consonant chords—Construction of the musical scale—Exact and tempered intonation—Equal temperament—Systems of pitch notation.

Professor Brown's lectures are delivered in the lecture-room of the Chemical Department in Eden Street.

Graduates.

The following are the Graduates of the University of New Zealand, whose names are on the College Register:—

Graduated from Auckland University College:

HARRISON, Clementine Emily Margaret, M.A. 1886
GIFFORD, Arthur, M.A. 1886
FRENCH, James Morison, M.A. 1888
GILLIES, Sinclair, M.A. 1889
RYBURN, Robert Middleton, the Reverend, M.A. 1889*
ADAMS, Edith Mary, M.A. 1890
SHREWSBURY, Hugh, M.A. 1890
SINCLAIR, Mary Muir, M.A. 1890
CARTER, Frederic John, M.A. 1891
COWX, Howard Percival, M.A. 1891
GIFFORD, Sylvia Esther, M.A. 1891
LIPPIATT, George, M.A. 1891
NOTT, James Thornton, the Reverend, M.A. 1891
NEVE, Frederick, M.A. 1892
JACKSON, David Hamilton, M.A. 1892 (B. Sc. 1893)
CURRIE, Annie Hamilton, M.A. 1893
FIELD, Edward Thurlow, M.A. 1893
GRANT, Catherine Donaldson, M.A. 1893
MAJOR, Charles Thomas, M.A. 1893 (B. Sc. 1894)
MORRISON, Annie Christina, M.A. 1893
NEVE, Frederick, M.A. 1892

* Graduated B.A. from Auckland University College, M.A. from University of Otago.

GRADUATES.

Shrewsbury, Elsie, M.A. 1893
La Trobe, William Sanderson, M.A. 1894
Clayton, Charles Ziegler, LL.B. 1883
Baume, Frederick Ehrenfried, LL.B. 1891
Cronin, Bartholomew, B.A. 1884
McDowell, William Chisholm Wilson, B.A. 1885
James, Herbert Louis, B.A. 1886
Kerr, Walter, B.A. 1886
Coleman, Margaret Annabella, B.A. 1887
Durrieu, Louisa, B.A. 1889
Hill, Mary Lilian, B.A. 1889
Murray, Donald, B.A. 1890
Aubin, Emile Dupont, B.A. 1891
Ecclesfield, Isabel, B.A. 1891
Knapp, Jessie, B.A. 1891
Maclaurin, Richard Cockburn, B.A. 1891
Grant, Catherine Donaldson, B.A. 1892
Horton, Henry, B.A. 1892
Boyle, John, B.A. 1893
Ellis, Percy Silvester Gilbert, B.A. 1893
Frost, Constance Helen, B.A. 1893
Galwey, John de Burgh, B.A. 1893
Grant, Jane Donaldson, B.A. 1893
Moore, Joseph Harold, B.A. 1893
Burton, Frank Percy, B.A. 1894
Drummond, James, B.A. 1894
Dudley, Eleanor Dorothy, B.A. 1894
Picken, Winifred, B.A. 1894
Tisdall, Charles Archibald, B.A. 1894
Wells, Tom Umfrey, B.A. 1994
Maclaurin, James Scott, B. Sc. 1892.

GRADUATES.

Graduated after Examination in the University of New Zealand, not from this College :

BELL, Thomas Watt, M.D. (1890), (M.B., Edinburgh)

TISDALL, William St. Clair Towers, the Reverend, M.A. (B.A., 1878)

DAVIS, John King, the Reverend, M.A. (B.A., 1881)

EDGER, Margaret Lilian Florence, M.A. (B.A., 1881)

FIDLER, William, M.A. (B.A., 1881)

TURNER, Joseph Hurst, M.A. (B.A., 1889)

LINDSAY, Peter Alexander, B.A. (1884), M.B. and C.M. (Edinburgh)

RATTRAY, Robert Henry, LL.B. (B.A., 1889).

Admitted Ad Eundem Gradum :

COWIE, William Garden, The Most Reverend, Bishop of Auckland, D.D. (Cambridge), M.A. (Cambridge and New Zealand)

KIDD, Robert Boyd, LL.D. (Dublin)

BAKEWELL, Robert Hall, M.D. (St. Andrews)

BEATTY, William, M.A. (Royal, Ireland)

BOURNE, Charles Frederick, M.A. (Oxford)

FRENCH, Alexander, M.A. (Glasgow)

NELSON, Charles Moseley, the Reverend, M.A. (Cambridge)

RUNCIMAN, David William, the Reverend, M.A. (Glasgow)

TIBBS, James William, M.A. (Oxford)

O'RORKE, George Maurice, Sir, B.A. (Dublin)

SLOMAN, John Flashman, B.A. (Sydney).

Undergraduates.

Three Years' Terms have been kept by

BEALE, Arundel Mary [3]
BRYANT, William Henderson
BUCKLAND, Charles Channing
CRUMP, Mabel Lilian
GERKENS, Teresa Catherine Burgoyne [3]
GORRIE, Mary Morton
MAJOR, Henry Dewsbury Alves [3]
MULGAN, Edward Ker [3]
NEWCOMBE, Frederic [3]
PURDIE, Sara Jane
TISDALL, Charles Archibald [3]
WITHER, George Bigg.

Two Years' Terms have been kept by

BARBER, Edward Hounsfield [3]
BARCLAY, William John [1]
DAVIS, Eliot Rypinskie [4]
ELKIN, Jonathan Bevan
GATENBY, William Joshua [3]
GRANT, Agnes Lilian [3]
HAMILTON, Robert James [3]
HEATHER, Charles Herbert

1. University Junior Scholarship.
2. College Senior Scholarship.
3. Has passed Section or Sections of Examination for Degree.
4. Amateur Opera Club Exhibition.

Laws, Charles Henry [3]
Macky, Samuel Henry
Mahon, Harold James Del Monte [3]
McCullough, Robert Alexander [1, 2, 3]
Riley, Eveline Charlotte [3]
Rockel, Robert Hermann [3]
Shroff, Alfred Homy
Smith, William Charles
Smyth, Edward William [3]
Somerville, George Arthur
Wooller, Joseph.

One Year's Terms have been kept by

Adams, Alan A.
Choyce, Charles Coley
Cousins, Herbert Glanville
Currie, Janet Reid
Drummond, Peter [1]
Edenborough, Edith
Eves, Charles Arthur
Gillies, Henry Thomas
Keane, Hilda Emma
Kidd, William Wallace
Kissling, Mary Alfleda Alison
Livesey, Cecil Edleston
Livesey, Florence Ellen
Moir, Peter
Peryman, Samuel Huxtable Dewsbury
Sigley, Henry Charles

THIELE, Magdalena Marie Elizabeth
WOODWARD, Alice
YOUNG, Henry Aiken.

Have passed Matriculation Examination:—

BANNERMAN, Alexander
BELL, Fanny Madeline
BLACKMAN, Harold
BURTON, Alfred Fordyce
DARBY, Edward Joseph
DAWSON, Frederick Walter Whitney
DE MONTALK, Marguerite Alexandrina
DUNNAGE, Frank
ELLIOTT, James
EVES, Charles Arthur
FIELD, Charles William
FLAVELL, Dennis Rupert
GRAY, William Orr
HALL, Annie
HARROW, Harry Alexander
HARROW, Patrick Arthur
HEMUS, Geraldine Marian
LEYS, William Cecil
LILLY, James Osborne
LOW, David Walker
MACLAURIN, Kenneth Campbell
MAYS, Selwyn
MCKENZIE, Norman Roderick
PEACOCKE, Florence Blanche Mary

PROUSE, Woodley Armstrong
SHEFFIELD, Eva Jane
SPEIGHT, William Arthur
WATTS, Percy Harold
WILLIAMS, Harold Whitmore. [1]

UNIVERSITY HONORS.

1877. TISDALL, William St. Clair Towers; First Class, Languages and Literature (Latin, Greek).

1885. GIFFORD, Arthur; First Class, Languages and Literature (Latin, Greek).

1887. FRENCH, James Morison; First Class, Languages and Literature (Latin, English).

1888. GILLIES, Sinclair; Second Class, Chemistry.

1889. GREEN, Thomas Hillier; First Class, Chemistry.

,, ADAMS, Edith Mary; Third Class, Languages and Literature (Latin, French).

,, SHREWSBURY, Hugh; Third Class, Natural Science (Geology).

,, SINCLAIR, Mary Muir; Third Class, Languages and Literature (Latin, English).

1890. CARTER, Frederic John; Second Class, Languages and Literature (Latin, English).

1892. MAJOR, Charles Thomas; First Class, Mathematics and Mathematical Physics.

,, SHREWSBURY, Elsie; First Class, Political Science.

,, GRANT, Catherine Donaldson; Second Class, Political Science.

,, CURRIE, Annie Hamilton; Third Class, Languages and Literature (Latin, English).

,, FIELD, Edward Thurlow; Third Class, Political Science,

1892. MORRISON, Annie Christina; Third Class, Mathematics and Mathematical Physics.

,, NEVE, Frederick; Third Class, Languages and Literature (Latin, English).

1893 BOYLE, John; Second Class, Chemistry.

,, LA TROBE, William Sanderson; Second Class, Mathematics and Mathematical Physics.

UNIVERSITY SENIOR SCHOLARSHIPS.

1883. GIFFORD, Arthur; Latin and Greek.

1888. GREEN, Thomas Hillier; Experimental Science (Chemistry, Heat, and Electricity).

1889. CARTER, Frederic John; Latin and English.

,, COWX, Howard Percival; Mental Science.

,, GIFFORD, Sylvia Esther; Political Science.

,, NOTT, James Thornton; Natural Science (Zoology).

1890. JACKSON, David Hamilton; Chemistry.

,, MACLAURIN, Richard Cockburn; Mathematics.

1891. MAJOR, Charles Thomas; Mathematics.

,, SHREWSBURY, Elsie; Political Science.

1892. BOYLE, John; Chemistry.

THE EXHIBITION 1851 SCIENCE SCHOLARSHIP.

The Exhibition 1851 Science Scholarship allotted to New Zealand was awarded in 1892 to

DAVID HAMILTON JACKSON, M.A.

Presentations to College Library

DURING 1893.

The following books were presented by Messrs. Macmillan & Co.

I.—LATIN.

Author.	Title.	Editor, Etc.
Virgil	Aeneid I.	T. E. Page, M.A.
Caesar	Civil War, Book I. ..	M. Montgomery, M.A.
W. Welch, M.A., and C. G. Duffield, M.A.	Exercises in Unseen Translation in Latin ..	
Cicero	Pro Milone	F. H. Colson, M.A.
Terence	The Adelphoe	Sidney G. Ashmore, L.H.D.
Henry John Roby, M.A., LL.D., and A. S. Wilkins, Litt D., LL.D.	Elementary Latin Grammar.	

II.—GREEK.

Xenophon	Tales from the Cyropaedia	Charles Haines Keene M.A.
,, ...	Anabasis VI.	Rev. G. H. Nall, M.A.
Thucydides	Book VII.	E. C. Marchant, M.A.
,, ..	Book VIII.	T. G. Tucker, Litt. D. (Camb.), Hon. Litt., Dublin.
Homer	Iliad VI.	Walter Leaf, Litt. D., and M.A. Bayfield, M.A.
W. J. Hickie, M.A. ..	Greek English Lexicon to the New Testament. ..	

III.—ENGLISH.

Tennyson	The Holy Grail	G. C. Macaulay, M.A.
,, ..	The Marriage of Geraint ..	,,
Shakespeare ..	Romeo and Juliet ..	K. Deighton
,, ..	King Henry the Fourth, First Part	,,
,, ..	King Henry the Fourth, Second Part	,,
,, ..	Macbeth	,,
Macaulay	Warren Hastings ..	,,
,, ...	Lord Clive	,,

Author.	Title.	Editor, Etc.
Charles Kingsley ..	Hereward the Wake	
,, ..	Westward Ho !	
Spencer . ..	The Faerie Queen, Book I.	H. M. Percival, M.A.
Dryden	The Satires of Dryden ..	John Churton Collins
Leon Kellner, Ph. Dr.	Historical Outlines of English Syntax	
Alfred W. Pollard, M.A.	Chaucer	
Macmillan's ..	Recitation Books, Nos. 37-42.	

IV.—FRENCH.

G. Eugene Fasnacht..	French Composition.	

V.—GERMAN.

G. Eugene Fasnacht..	Das Wirtshaus Im Spessart.	

VI.—POLITICAL ECONOMY.

Philip H. Wicksteed..	Alphabet of Economic Science.	

VII.—MATHEMATICS.

William Weeks ..	Exercises in Euclid	
Asutosh Mukhopadhyay, M.A., F.R.S.E.	Geometry of Conics	
Joseph Edwards, M.A.	Differential Calculus for Beginners	
S. Jackson, M.A. ..	Commercial Arithmetic.	

VIII.—PHYSICS.

Hugh Gordon, M.A., Oxford	Practical Science, Part I.	

IX.—CHEMISTRY.

Sir Henry Roscoe, F. R. S., D. C. L., LL. D., M. P. Joseph Lunt, B.Sc. (Vict.), F.C.S. ..	Inorganic Chemistry.	

X.—BIOLOGY.

A. P. Laurie, M.A., B.Sc.	The Food of Plants.	

MISCELLANEOUS.

J. E. C. Munro, LL.M.	Commercial Law	
James Muir, M.R.A.C.	Manual of Dairy Work	
J. Wright, F.R.H.S.	Primer of Horticulture.	

STATUTES

OF

N.Z. UNIVERSITY.

Statutes of the N.Z. University.

ADMISSION AD EUNDEM.

I. Any person who has passed the Matriculation Examination of any chartered University, or completed any part of his undergraduate course at any such University, may on the approval of the Chancellor be admitted to Matriculation without examination; and any person so admitted shall have the same standing, with respect to the keeping of terms only, as he would have had if any terms which he has kept in another University had been kept in the University of New Zealand. Applicants under this section must send to the Registrar—(*a*) Any evidence in their possession of their standing at their former University; (*b*) A fee of two guineas; (*c*) A statutory declaration of identity.

II. Any person who shall have been admitted to the degree of Bachelor of Arts, Master of Arts, Bachelor of Medicine, Doctor of Medicine, Bachelor of Laws, Doctor of Laws, Bachelor of Music, Doctor of Music, Bachelor of Science, Doctor of Science, in any of the following Universities—namely, Oxford, Cambridge, Glasgow, Aberdeen, St. Andrew's, Edinburgh, Dublin, Durham, London, Queen's University of Ireland, Royal University of Ireland, Victoria University, Sydney, Melbourne, or Adelaide—may be admitted by the Senate to the same degree in the University of New Zealand. Candidates must, on or before the first day of the meeting of the Senate in any year, lodge with the Registrar as evidence a diploma or Calendar of the University to which they have formerly belonged, or a certificate of the Registrar or other recognised officer of the said University, together with proof of their identity by means of a statutory declaration or a certificate from a member of the Senate.

III. The fee for admission *ad eundem*, either as a graduate or as an undergraduate, shall be two guineas, and shall be paid by the applicant at the time of making application for such admission.

CONDUCT OF UNIVERSITY EXAMINATIONS.

I. The examinations shall be held at such places within the Colony as shall be appointed by the Chancellor, and at the times notified in the Calendar for each year.

II. Every candidate for any examination must give notice in writing of his intention to present himself for such examination; and the notice must be sent so as to be in the hands of the Registrar by the date notified in the Calendar for the giving of such notice. The notice must be accompained by the prescribed fee, except in the case of candidates for the degree of Master of Arts and for Honours in Arts or in Science, for which special provision is made in the Statutes relating to such degree and Honours: Provided that, subject to the same exception, the notice may be received within seven days after the prescribed date if accompained by a special fee, and that the fee in such cases shall be three times the ordinary fee.*

III. The examinations shall be conducted by means of papers to be severally prepared by the Examiners, and three hours shall be allowed for each paper.

IV. Candidates shall write out answers to the questions in the presence of a Supervisor, who shall be appointed by the Chancellor, and in accordance with such details instructions as may be furnished by the Chancellor.

V. The written answers shall be transmitted by the Supervisor to the Registrar, and shall by him be transmitted to the Examiners—that is to say, each answer to the Examiner who set the paper, who shall examine the same and report thereon to the Chancellor.

* Candidates for Junior Scholarships must state the schools at which they have been educated during the previous five years. Candidates for Medical Preliminary, Law Professional, Engineering, Senior or John Tinline Scholarship Examinations, must give specific notice of their desire to come up for these examinations.

VI. The Examiners and Supervisors shall receive such remuneration for their services as the Senate shall in each case determine.

VII. As soon as convenient after the examintion, each Examiner shall return the papers of the candidates to the Registrar, or to the University's Agent in the country where the Examiners may reside.

MATRICULATION.

I. Every student upon entering the University shall be matriculated—that is, shall have his name enrolled upon the books of the University. No student shall be matriculated until he has passed the Matriculation Examination. Students who have passed the Preliminary Examination of Medical Students, Junior Scholars, and unsuccessful candidates for Junior Scholarships who, in the opinion of the Chancellor, upon the report of the Examiners, are fit to be matriculated, shall be held to have passed the Matriculation Examination.

II. Every student shall, at Matriculation, make the following declaration :—

> "I do solemnly promise that I will faithfully obey the Statutes of the University, so far as they apply to me ; and I hereby declare that I believe myself to have attained the age of sixteen years."

TERMS AND LECTURES.

I. Any student matriculated to the University, whose name is on the books of an affiliated College, and who has attended its lectures and passed its annual examination, shall be deemed to have kept the terms of the year.

II. Any student may, on giving notice in writing to the Chancellor, transfer his name from the books of one affiliated College to those of another.

III. Any student who does not reside within ten miles of an affiliated College, or who is engaged in acquiring a profession or trade, or earning a livelihood, may keep terms without attending lectures; but a student entitled to exemption from attendance at lectures under this Statute must have his name on the books of an affiliated College, and must pass its annual examination in order to keep the terms of the year.*

IV. No student shall be allowed to present himself for examination in any branch of Physical Science, or of Natural Science, or of Chemistry, either at the annual examination of an affiliated College or at the examination for the degree of Bachelor of Arts or for the degree of Bachelor of Science or in any branch of Engineering, unless subsequently to matriculation he has both attended the regular course of instruction in the subject at the affiliated College to which he is attached, and gone through a prescribed course of practical work in the subject.

* Undergraduates desiring to take advantage of the provisions of this clause must forward to the Registrar of the University the following declaration:—

"I, A.B., hereby declare that I am –

1. Residing more than ten miles from an affiliated institution; *or*
2. Engaged in acquiring a profession or trade; *or*
3. Earning a livelihood;

and that I am therefore entitled to claim exemption from attendance at lectures."

[*Nos.* 1, 2, *or* 3 *to be struck out according to circumstances.*]

They must also give to the Registrar of their College, on or before 15th of August in each year, notice of their intention to come up for their annual examination, and of the subjects they propose to take up, forwarding also the fee prescribed by the College.

THE BOWEN PRIZE.

[This Prize arises from a donation by Sir G. F. Bowen, K.C.M.G., late Governor of New Zealand, of £100 for the purpose set forth in this Statute.]

I. There shall be a yearly prize, to be called the "Bowen Prize," of the value of not less than five pounds (£5), to be given for the best essay, as hereinafter provided. The prize, if a medal, shall be impressed with the arms of the University, and with the words "Bowen Prize" on the obverse side of the medal, and if of books, each volume shall be impressed with the arms of the University, and shall be suitably bound.

II. The prize shall be open to all matriculated students of the University who shall not have taken their degree, but shall not be awarded more than once to the same undergraduate.

III. The Examiners shall be the Chancellor, the Vice-Chancellor, and one other person to be appointed by the Senate of the University in each year: Provided that such last-mentioned person shall hold office till the appointment of his successor: Provided also that in the case of a vacancy occurring in the above-mentioned body of Examiners, the Chancellor, or in his absence, or in case of his inability from any cause to act, the Vice-Chancellor, shall appoint some fit person to supply such vacancy.

IV. The subject for the essay shall be selected by the Examiners appointed as above, or any two of them, and shall be given out in the month of March in each year; and the essays shall be sent in to the Registrar before the 31st day of December next ensuing.*

V. The subject of the essay shall be connected with or shall bear reference to British History, or the history, institutions, or destinies of the British Colonies, or any of them.

* The essays must be sent in with a motto prefixed, but without the name of the writer attached thereto. The name and address of the candidate must be enclosed in a separate sealed envelope, on the outside of which is to be written the motto prefixed to the essay. Essays should be written on foolscap paper, with a margin of one inch. Competitors are specially advised to study conciseness and clearness of thought and expression. Very great importance will also be attached by the Examiners to originality and independence of thought.

SCHOLARSHIPS.

THE VALUE AND TENURE OF ORDINARY SCHOLARSHIPS.

I. There shall be ordinary Scholarships of two kinds, to be called Junior and Senior Scholarships respectively.

II. The Junior Scholarships shall be of the annual value of £40. The Senior Scholarships shall be of the annual value of £50.

III. The number of Senior Scholarships to be offered each year shall be nine. The number of Juniors Scholarships to be offered each year shall be fixed by the Senate at the annual meeting previous to the examination for such Scholarships.

IV. Any junior scholar who may become entitled to the benefit of a Senior Scholarship shall thereby vacate his Junior Scholarship; and no scholar shall in any case receive the emoluments of more than one Scholarship at the same time.

JUNIOR SCHOLARSHIPS.

I. The Junior Scholarships shall be open to candidates who are between the ages of sixteen and nineteen on the 1st of December in the year in which they offer themselves for examination, and who have not been matriculated and who have not carried on their studies at any University College or University; and each Scholarship shall be tenable for three years, except as herein otherwise provided.

II. Candidates for Junior Scholarships must state the schools at which they have been educated during the previous five years.*

* Places of Examination—Auckland, Gisborne, Napier, Wanganui, Wellington, Nelson, Greymouth, Christchurch, Timaru, Oamaru, Dunedin, Invercargill.

III. The Junior Scholarships shall be awarded at an examination to be held annually at the same time as the Matriculation Examination, and shall depend upon comparative excellence in any number (not exceeding five) of the following subjects:—

1. LATIN.
2. GREEK.
3. ENGLISH.
4. FRENCH.
5. GERMAN.
6. MATHEMATICS.
7. HISTORY AND GEOGRAPHY.
8. NATURAL AND PHYSICAL SCIENCE.

The time allowed for each paper set in these subjects shall be three hours.

The following shall be the papers set:—

(1.) **Latin**:—

(*a.*) THE MATRICULATION PAPER, in which shall be set, for candidates for Junior Scholarships only, additional and more difficult questions in grammar

(*b.*) TRANSLATION AT SIGHT FROM AND INTO LATIN, including at least one piece of simple historical narrative, for translation into Latin prose; and questions on history to the death of Augustus, and on antiquities.

(2.) **Greek**:—

(*a.*) THE MATRICULATION PAPER, in which shall be set, for candidates for Junior Scholarships only, additional and more difficult questions in grammar.

(*b.*) TRANSLATION AT SIGHT FROM AND INTO GREEK, and questions on history to the fall of Corinth, and on antiquities.

(3.) **English**:—

(*a.*) THE MATRICULATION PAPER.

(*b.*) PARAPHRASE, illustration, and explanation of passages selected from the works of any of the standard English writers; general questions on etymology, grammar, and the use of words; also a short essay on some easily understood subject.

(4.) **French**:—

(*a.*) THE MATRICULATION PAPER

(*b.*) TRANSLATION AT SIGHT FROM AND INTO FRENCH of a more difficult kind than the exercises set in the Matriculation paper.

(5.) **German**:—

(*a.*) THE MATRICULATION PAPER.

(*b.*) TRANSLATION AT SIGHT FROM AND INTO GERMAN of a more difficult kind than the exercises set in the Matriculation paper.

(6.) **Mathematics**:—

(*a.*) ARITHMETIC (the whole subject), and ALGEBRA to quadratic equations inclusive; also Ratio, Proportions, Variation, the Progressions, Permutations, and Combinations.

(*b.*) EUCLID, Books I., II., III., IV. and VI., and PLANE TRIGONOMETRY to solution of triangles inclusive, with easy transformations and examples.

(7.) **History and Geography:—**

(*a.*) THE MATRICULATION PAPER ON HISTORY.

(*b.*) THE MATRICULATION PAPER ON GEOGRAPHY

(*c.*) A PAPER ON OUTLINES OF THE HISTORY OF ENGLAND from the accession of Elizabeth, with especial reference to the Colonies: and on GEOGRAPHY, political and physical.

(8.) **Natural and Physical Science.**—Any two of the following:—

(*a.*) CHEMISTRY.—The chief physical and chemical characters of the following elements and of their more important compounds:—Oxygen, hydrogen, carbon, nitrogen, chlorine, bromine, iodine, fluorine, sulphur, phosphorus, silicon, sodium, potassium, calcium, magnesium, zinc, aluminium, iron, manganese, chromium, lead, silver, copper, mercury, tin, gold, platinum. The laws of chemical combination. Equivalents. The atomic theory. Atomic values, (Valency). The general nature of acids, bases and salts. The elements of qualitative analysis.

(*b.*) MAGNETISM AND ELECTRICITY.—Properties of magnets. Magnetic field. Magnetic induction. Magnetic laws and units. Elementary facts of terrestrial magnetism. Electrical attraction and repulsion. Conduction and insulation. Electrostatic induction. Distribution of electricity on conductors. Simple electrostatic laws. Electrostatic units. Friction machines. Condensers. Common forms of voltaic batteries. Heating, chemical, and magnetic effects of electric currents. Electromagnetic units. Galvanometers. Ohm's law and its simple applications. Measurement of resistance and of electromotive force.

(*c.*) SOUND AND LIGHT.—Production and propagation of sound. Intensity. Pitch. Quality. Velocity of sound in uniform media. Reflection of sound. Vibration of strings, and of the air in pipes. Resonance. Beats. The diatonic scale. Production and propagation of light. Photometry. Velocity of light, and modes of determining it. Reflection and refraction. Formation of images by plane and spherical mirrors, and by simple lenses. The prismatic spectrum. Optical instruments, and vision.

(*d.*) HEAT.—Expansion of solids, liquids, and gases. Thermometry. Liquefaction and solidification. Vaporisation and condensation. Properties of vapours. Hygrometry. Latent heat. Specific heat. Calorimetry. Conduction. Convection. The mechanical equivalent of heat.

(*e.*) ELEMENTARY MECHANICS OF SOLIDS AND FLUIDS.—Composition and resolution of statical forces; mechanical powers, ratio of the power to the weight in each; centre of gravity; laws of motion; laws of motion of falling bodies; hydrostatics.

(*f.*) BOTANY.—(1.) The Morphology, Histology, Physiology, and Life-History of *Saccharomyces*, *Bacteria*, *Protococcus*, *Closterium*, *Spirogyra*, *Penicillium*, *Mucor*, *Saprolegnia*, *Peziza*, *Agaricus*, a Fucoid, *Nitella* (or *Chara*), *Marchantia*, a Moss, a Fern, *Pinus*, and the Bean Plant. (2.) The general Morphology and Classification of Angiospermous Flowering Plants, with especial reference to the following natural orders: Orchideæ, Liliaceæ, Gramineæ, Polygoneæ, Scrophularineæ, Boragineæ, Ericaceæ (including Epacrideæ), Compositæ, Rubiaceæ,

Umbelliferæ, Onagrarieæ, Rosaceæ, Leguminosæ, Malvaceæ, Caryophylleæ, Cruciferæ, and Ranunculaceæ; the modification of roots; stems, leaves, etc., to different purposes; parasitism; fertilisation of flowers, and modes of dispersion of seeds.

IV. The Junior Scholarships shall be awarded to those candidates who shall have obtained the highest aggregate of marks in any number not exceeding five of the subjects prescribed in Section III. of this Statute, and to such subjects the values given in the Schedule hereunto appended shall be assigned: Provided that for the purpose of awarding Junior Scholarships no marks shall be counted in any subject in which the candidate shall have obtained less than one-fifth of the value assigned to that subject.

SCHEDULE.

Maximum Marks of Subjects for Junior Scholarship Examination.

1. Latin	1,500
2. Greek	1,000
3. English	1,000
4. French	750
5. German	750
6. Mathematics	1,500
7. History and Geography ..	750
8. Science (each paper 500) ..	1,000

V. As soon as possible after the holding of the Junior Scholarship Examination, a list in the order of merit shall be published of those who have obtained the Scholarships; and also a list of those who, having failed to obtain a Scholarship, have yet obtained three-fourths of the number of marks obtained by the candidate who stands lowest in the list of Junior Scholars; and those who obtain this proportion of marks shall be deemed to have passed with credit. The names of all the candidates, and the marks they have obtained in the several subjects, shall be published in order of merit.

VI. No person shall be entitled to hold a Junior Scholarship unless within three months after its acquisition he shall have been matriculated as a member of the University, and shall have entered his name upon the books of some affiliated institution, nor unless he shall attend regularly the course of studies and lectures provided by such institution: Provided that any scholar may, on giving notice to the Chancellor, pursue his studies at some affiliated institution other than that in which he may have originally entered.

VII. A Junior Scholarship shall become vacant by neglect on the part of the holder to pass each year in at least two subjects of the annual examination of the institution upon the books of which he may have entered his name, unless the holder shall produce proof to the satisfaction of the Chancellor that he was unable from illness or other sufficient cause to attend.

VIII. All Junior Scholars, unless for any reason specially excused by the Chancellor, shall, as a condition of holding their Scholarship, be required at the end of their second year after matriculation to pass in one section of their examination for the degree of Bachelor of Arts, or of Bachelor of Science.

IX. The fee for the examination for Junior Scholarships shall be one guinea, subject to the provisions of the Statute "Conduct of University Examinations"; but all candidates who are admitted to matriculation by means of this examination shall pay an additional fee of one guinea, and shall then be deemed to have paid the Matriculation Examination fee.

SENIOR SCHOLARSHIPS.

I. The Senior Scholarships shall be tenable for one year, and shall only be tenable by candidates for Honours.

II. The Senior Scholarships shall be distributed as follows among the undermentioned subjects or groups of subjects :—

Latin	One Scholarship.
Greek	One Scholarship.
English and either French or German	One Scholarship.
Mathematics	One Scholarship.
Chemistry	One Scholarship.
Physical Science	One Scholarship.
Biology or Geology	One Scholarship.
Mental Science	One Scholarship.
Political Science	One Scholarship.

III. The Senior Scholarships shall be awarded on the results of the Senior Scholarship Examination only.

IV. No Senior Scholarship shall be awarded unless in the opinion of the Examiner or Examiners the candidate has shown satisfactory proficiency in the subject or group of subjects in which he has been examined.

V. The Senior Scholarship Examination shall be held at the same time as the examination for the degrees of Bachelor of Arts and of Bachelor of Science, and shall be open to competitors who have not already graduated and who are taking the whole examination for the degree of Bachelor of Arts or of Bachelor of Science, or who are taking the second section of one of these examination.*

* Candidates' notice for examination must be sent in to the Registrar not later than September 1st, with the fee of one guinea; or if sent within one week after, with a treble fee. Places of Examinations—Auckland, Wellington, Nelson, Christchurch, Dunedin.

VI. A candidate may present himself for a Senior Scholarship in any of the subjects or groups of subjects prescribed in Section II. of this Statute, although he may not at the time be taking that subject or any subject of that group for his examination for the degree of Bachelor of Arts or Bachelor of Science; but no Senior Scholarship shall be awarded to a candidate unless he shall have passed, at the time of his candidature, the examination for the degree of Bachelor of Arts or of Bachelor of Science, or the second section of one of those examinations.

VII. For the purpose of awarding Senior Scholarships there shall be given separate papers, containing questions of a higher character than those set for the degree of Bachelor of Arts or of Bachelor of Science, and not necessarily confined within the limits of the subjects as defined for the degree of Bachelor of Arts or of Bachelor of Science. The following shall be the papers set, and where the Honours papers are prescribed a lower standard of work will be accepted:—

(1.) **Latin Language and Literature** (Two papers):—

(*a.*) Translation of unseen passages from Latin into English; questions on grammar, history, and antiquities.

(*b.*) The Honours Paper in Latin prose (*c.*)

(2.) **Greek Language and Literature** (Two papers):—

(*a.*) Translations of unseen passages from Greek into English; questions on grammar, history, and antiquities.

(*b.*) The Honours Paper in Greek prose (c.)

(3.) **English Language and Literature** (Two papers):—

(*a.*) The Honours Paper (*a.*)

(*b.*) Such a knowledge of English literature of the period set for the degree of Bachelor of Arts as a candidate should have from reading the principal works of the leading authors of the period. A short essay arising out of the works selected for the examination for the degree of Bachelor of Arts.

NOTE.—Great importance is attached to Composition.

(4.) **Modern Languages and Literature** (Two papers):—

(A.) FRENCH:—

(*a.*) Passages for translation at sight from and into French; questions on grammar and idiom.

(*b.*) Such a knowledge of French literature of the period set for the degree of Bachelor of Arts as a candidate should have from reading the principal works of the leading authors of the period.

(B.) GERMAN:—

(*a.*) Passages for translation at sight from and into German; questions on grammar and idiom.

(*b.*) Such a knowledge of German literature of the period set for the degree of Bachelor of Arts as a candidate should have from reading the principal works of the leading authors of the period.

(*5.*) **Political Science**, including:—

(A.) GENERAL HISTORY AND POLITICAL ECONOMY (Two papers):—

(*a.*) GENERAL HISTORY.—As for the degree of Bachelor of Arts, but treated more fully.

(*b.*) POLITICAL ECONOMY.—The Honours Paper.

(B.) JURISPRUDENCE AND CONSTITUTIONAL HISTORY (Two papers).—The Honours Papers.

(6.) **Mathematics**:—

(*a.*) ELEMENTARY GEOMETRY, PLANE CO-ORDINATE GEOMETRY, AND CONIC SECTIONS.—The Honours Paper (*a.*)

(*b.*) ALGEBRA, TRIGONOMETRY AND DIFFERENTIAL AND INTEGRAL CALCULUS.—The Honours Paper (*b.*)

(*c.*) ELEMENTARY MECHANICS AND HYDROSTATICS: —As for the Degree of Bachelor of Arts, but treated more fully.

(7.) **Experimental Science**, namely:—

PHYSICAL SCIENCE.—As for the degree of Bachelor of Arts, but treated more fully.

OR,

CHEMISTRY.—As for the degree of Bachelor of Arts, but treated more fully.

(8.) **Natural Science**.—BOTANY OR ZOOLOGY OR GEOLOGY.—The Honours Papers.

(9.) **Mental Science**:—

(*a.*) PSYCHOLOGY AND ETHICS.—The Honours Paper (*a.*)

(*b.*) LOGIC.—The Honours Paper (*b.*)

VIII. Senior Scholars shall furnish to the Chancellor satisfactory proof that they are prosecuting their studies diligently at an affiliated Institution.

IX.—The fee for the examination for Senior Scholarships shall be one guinea, subject to the provisions of the Statute "Conduct of University Examinations."

THE JOHN TINLINE SCHOLARSHIP.

[This Scholarship arises from a donation in 1886, by John Tinline, Esq., of Amuri, of the sum of One Thousand Pounds, for purposes indicated in this Statute.]

I.—There shall be a Scholarship to be called " The John Tinline Scholarship," of the annual value of not more than £60, tenable for one year.

II. The Scholarship shall be awarded on the papers in English alone of the Senior Scholarship Examination, whether the candidate be or be not a candidate for a Senior Scholarship.

III. The Scholarship shall only be tenable by candidates for Honours.

IV. The Scholarship Examination shall be held at the same time as the examination for the degree of Bachelor of Arts and of Bachelor of Science, and shall be open to competitors who have not already graduated and who are taking the whole examination for the degree of Bachelor of Arts or of Bachelor of Science, or who are taking the second section of one of those examinations.

V. The Scholarship shall not be awarded to a candidate unless he shall have passed, at the time of his candidature, the examination for the degree of Bachelor of Arts or of Bachelor of Science, or the second section of one of those examinations.

VI. The emoluments of the John Tinline Scholarship shall not be enjoyed concurrently with those of any other Scholarship in the University.

VII. If the candidate standing highest in English gain the Senior Scholarship in English and French or English and German, then the John Tinline Scholarship shall be awarded to the candidate who stands next highest in English.

VIII. The Scholarship shall not be awarded to any candidate who has not shown satisfactory proficiency in the papers forming the subject-matter of the examination.

IX. Holders of the Scholarship shall furnish to the Chancellor satisfactory proof that they are prosecuting their studies diligently at an affiliated Institution.

X. The fee for the examination for the Scholarship shall be one guinea, subject to the provisions of the Statute "Conduct of University Examinations:" Provided that a candidate for a Senior Scholarship shall not be required to pay the same.

THE EXHIBITION, 1851, SCIENCE SCHOLARSHIP.

I. Candidates for any Science Scholarship offered by Her Majesty's Commissioners for the Exhibition of 1851 to members of the New Zealand University must be graduates of the University who have taken first or second class Honours in Chemistry, or in Physical Science, or in Mathematics and Mathematical Physics.

II. Every candidate must send to the Registrar an original paper embodying the result obtained by himself in some investigation or research in Physics or Chemistry, and such paper must be certified by a teacher of the subject in an affiliated institution.

III. The papers of all the candidates shall be referred to the examiners in England, who shall be requested to report to the Senate upon their relative merits and to recommend one of the candidates for nomination to the Scholarship.

[NOTE.—Her Majesty's Commissioners for the Exhibition of 1851 intimate that they hope to offer periodically to the University a Scholarship in Science, to be of the value of £150 a year, and tenable for two years, with the possibility of extension to a third year. The conditions laid down by the Commissioners are as follows:—

(a.) Candidates must be British subjects, and, except in very special circumstances, not more than thirty years of age at the date of nomination.

(b.) Candidates must have been *bona fide* students of science for a term of at least three years in an institution affiliated to the University, which term must not have been completed more than twelve months before the time of nomination; and further, since the completion of their term of study, candidates must have been engaged solely in scientific study.

(c.) Candidates must indicate high promise of capacity for advancing science, or its applications, by original research.

(d.) The Scholarships may be held at any University in England or abroad, or in some other institution to be approved by the Commissioners. A scholar will be expected to spend at least one year of the term at an institution beyond New Zealand.

(e.) The scientific work to which the nominee may devote himself is limited to those branches of science, such as Physics, Mechanics, and Chemistry, the extension of which is especially important to the national industries.]

COURSE IN ARTS.

—o—

THE MATRICULATION EXAMINATION.*

[NOTE.—Candidates who, at the time of the Examination, are not less than nineteen years of age, may obtain by passing the Matriculation Examination concessions from the Education Department in connection with Class D. See the regulations of the Department.]

Candidates are reminded that if, after passing this Examination, they send in the declaration, and are matriculated, they will not be able in any subsequent year to compete for a Junior Scholarship, nor will they be allowed to take the Matriculation Examination again for any reason whatever.

I. The subjects of the Matriculation Examination † shall be as follows:—

1. ENGLISH.—Grammar and Composition, with Précis-writing.
2. ARITHMETIC.—Fundamental Rules, Vulgar and Decimal Fractions, Proportion, and Square Root.
3. ALGEBRA.—To Simple Equations inclusive, with easy problems.
4. EUCLID.—Books I. and II.
5. LATIN.—Translation at sight of easy passages from Latin into English; translation of easy passages from English into Latin; and questions on Grammar.
6. GREEK.—As in Latin.
7. FRENCH.—As in Latin.

* This Statute is identical for the course in Arts, Science, Law and Music.

† The Examination is held in December. Places of Examination—Auckland, Gisborne, Napier, Wanganui, Wellington, Nelson, Greymouth, Christchurch, Timaru, Oamaru, Dunedin, and Invercargill.

8. GERMAN.—As in Latin.

9. HISTORY.—History of England, from the accession of William III. to the accession of Victoria.

10. GEOGRAPHY.—Political and Physical.

11. ELEMENTARY MECHANICS.—The elements of Statics, Dynamics, and Hydrostatics.

12. ELEMENTARY PHYSICS.—Heat, Sound, Light, and Electricity.

13. ELEMENTARY CHEMISTRY.—The Non-Metallic Elements, and the Atomic Theory.

14. ELEMENTARY BIOLOGY.—(The papers will contain questions on both Zoology and Botany; but candidates will not be required to answer questions in more than one of these subjects.) *Zoology*—Elements of Animal Physiology. *Botany*.—Elements of the Morphology and Physiology of Flowering Plants, including the main characteristics of the chief native and introduced Natural Orders.

II. Every candidate shall be required to pass in at least seven subjects, except those who take Latin or Greek, who shall be required to pass in six subjects only. Every candidate shall be required to pass in English, Arithmetic, and at least one of the following languages:—Latin, Greek, French, German.

III. The fee for the Matriculation Examination shall be two guineas, subject to the provisions of the Statute "Conduct of University Examinations." *

THE DEGREE OF BACHELOR OF ARTS.

I. The subjects of examination for the degree of Bachelor of Arts shall be:— †

1. LATIN LANGUAGE AND LITERATURE.

* The fee must be sent with the candidate's notice, or a treble fee if sent within one week afterwards.

† Candidates' notices for the B.A. Examination must be sent in by September 1st. The examination fee must be paid at the same time, or a treble fee if sent within one week afterwards.

2. GREEK LANGUAGE AND LITERATURE.
3. ENGLISH LANGUAGE AND LITERATURE.
4. MODERN LANGUAGES AND LITERATURE.
5. GENERAL HISTORY AND POLITICAL ECONOMY.
6. JURISPRUDENCE AND CONSTITUTIONAL HISTORY.
7. PURE MATHEMATICS.
8. APPLIED MATHEMATICS.
9. PHYSICAL SCIENCE.
10. CHEMISTRY.
11. NATURAL SCIENCE.
12. MENTAL SCIENCE.

The subjects shall be divided as follows :—

(1.) **Latin Language and Literature** (Two papers):—

(*a.*) Translation of simple unseen passages from Latin into English; selected portions of the works of one prose and one verse author.*

(*b.*) An easy passage or passages for translation from English into Latin prose; questions on grammar.

(2.) **Greek Language and Literature** (Two papers):—

(*a.*) Translation of simple unseen passages from

*1894. Tacitus—Agricola, Germania; Ovid—Tristia, Book I.
1895. Cæsar—De Bello Gallico, Book VII; Horace—Satires, Book I., Satires 1, 3, 4, 6, 7, 9, 10, and Ars Poetica.
1896. Livy, Book VIII.; Virgil—Georgics, Book II.
1897. Cicero—Pro Milone; Virgil—Æneid, Book IX.

Greek into English; selected portions of the works of one prose and one verse author.*

(*b.*) An easy passage or passages for translation from English into Greek prose; questions on grammar.

(3.) **English Language and Literature** (Two papers):—

(*a.*) 1. The history and structure of the English language: translation and explanation of easy sentences of Anglo-Saxon prose, and passages of early standard English, to test the candidate's knowledge of the history of forms and inflections. 2. Selected portions of the works of one or more authors.†

(*b.*) 1. A short essay on some subject arising out of the works selected under (*a.* 2). 2. An account of one period of literature.†

NOTE.—Great importance is attached to composition.

(4.) **Modern Languages and Literature** (Two papers):—FRENCH OR GERMAN, at the option of the candidate:—

(*a.*) Passages for translation from and into English and the language chosen.

(*b.*) Questions on Grammar and Composition. Questions testing the student's comprehension and

*1894. Herodotus, Book II; Æschylus—Prometheus Vinctus.
1895. Thucydides—Book VII.; Aristophanes—Knights.
1896. Xenophon—Anabasis, Book IV.; Euripides—Phœnissæ.
1897. Plato—Apology, Crito; Homer—Odyssey, Book IX.

†1894. Thackeray—Esmond; Shakespeare—The Merchant of Venice, Julius Cæsar. Period—1744 to 1800.
1895. Carlyle—Sartor Resartus; Milton—Samson Agonistes; Shelley—Prometheus Unbound. Period—1800 to 1850.
1896. George Eliot—Romola; Shakespeare—King Lear, The Tempest. Period—Reign of Elizabeth
1897. Scott—The Heart of Midlothian; De Quincey—Confessions of an Opium Eater; Shakespeare—Macbeth, Twelfth Night. Period—1625 to 1660.

literary appreciation of selected works.* Questions on the outlines of the history of a period of the literature of the language. *

(5.) General History and Political Economy (Two papers):—

(*a.*) General History.—Period† to be selected year by year.

(*b.*) Political Economy.—The production, distribution, exchange, and consumption of wealth; the law of population; emigration, immigration; strikes, trade-unions; socialist theories; land tenures; free-trade and protection; and the colonial policy of England.

(6.) Jurisprudence and Constitutional History (Two papers):—

(*a.*) Jurisprudence.—Nature of positive law; sources of law; scientific classification of law, together with knowledge of the system adopted in Roman law.

(*b.*) Constitutional History.—Constitutional history of England.

*1884. *French.* Corneille—Cinna. Les Horaces; Molière—Le Misanthrope. Voltaire—Charles XII. Period—The Age of Louis XIV.
German. Goethe—Aus Meinem Leben. Part 1.; Hermann und Dorothea. Schiller—Maria Stuart. Period of Goethe and Schiller.
1885. *French.* About—Le Roi des Montagnes; Molière—Le Bourgeois Gentilhomme. L'Avare; Racine—Phèdre. Period—1815 to 1850.
German. Goethe—Iphigenia auf Tauris; Schiller—Demetrius, Wallenstein's Lager. Period of Goethe and Schiller.
1886. *French.* Bossuet—Oraisons Funèbres (édition Hachette); Racine—Athalie, Andromaque. Period—The Seventeenth Century.
German. Freiligrath—Gedichte Stuttgart, 1876; Ebers—Die Schwestern. Period—The Seventeenth Century.
1887. *French.* A. de Tocqueville—L'Ancien Régime et la Révolution; Molière—Les Femmes Savantes. Period—1789 to 1830.
German. Pallieske—Schiller's Leben und Werke; Goethe—Egmont; Schiller—Wilhelm Tell. Period of Goethe and Schiller.

†1884. English History from the accession of Elizabeth to the death of James I.
1885. English History from the beginning of the Sixth to the end of the Fourteenth Centuries.
1886. English History from the accession of Charles I. to 1688.
1887. English History from 1688 to 1788.

(7.) **Pure Mathematics** (Two papers):—

(*a.*) ELEMENTARY GEOMETRY.—Euclid, Books I., II., III., IV., and VI., together with the definitions of Book V. TRIGONOMETRY.—The elementary parts of plane trigonometry so far as to include the principal properties of logarithms, the use of logarithmic tables, and the solution and properties of triangles, with easy transformations and examples.

(*b.*) ALGEBRA.—Definitions and explanations of algebraical signs and terms; addition, subtraction, multiplication and division of algebraical quantities, including fractions and surds; the elementary rules of ratio and proportion; the square and cube roots; easy equations of a degree not higher than the second, and questions producing such equations; arithmetical, geometrical, and harmonical progressions; permutations and combinations; and the binomial theorem: with proofs of the rules, and simple examples.

(8.) **Applied Mathematics** (One paper):—

ELEMENTARY MECHANICS AND HYDROSTATICS.—Treated so as not necessarily to require a knowledge of pure mathematics greater than the standard prescribed for the degree of Bachelor of Arts—namely, the composition and resolution of forces acting on a point and on a rigid body on one plane; the mechanical powers; the centre of gravity; the fundamental laws of motion; the laws of uniform and uniformly accelerated motion and of falling bodies; the pressure of liquids and gases; the equilibrium of floating bodies; specific gravities; and the principal instruments and machines the action of which depends on the properties of fluids: with simple problems and examples.

(9.) Physical Science (Two papers):—

(*a.*) HEAT.—Change of volume, measures of temperature; change of state, latent heat, hygrometry, specific heat, calorimetry; sources of heat, the conservation and dissipation of energy; convection, conduction; reflection, refraction, transmission, and absorption of radiant energy.

SOUND.—The production and propagation of sound; the vibration of sounding bodies; the elements of the physical theory of music.

LIGHT.—Nature, production and propagation of light; the laws of reflection and refraction at plane and spherical surfaces; prismatic dispersion and spectra; interference, double refraction, and plane polarisation; the principal optical instruments, and vision.

(*b.*) STATIC ELECTRICITY.—Fundamental phenomena of attraction and repulsion, conduction, induction, and distribution; electrostatic units; electrical machines; condensers.

MAGNETISM.—Fundamental phenomena of magnetic attraction, repulsion, and induction; magnetic units; terrestrial magnetism.

CURRENT ELECTRICITY.—Voltaic batteries; galvanometers; electrolysis; Ohm's law; thermal effects of the electric current; electromagnetic units; the interaction of magnets and currents, and the mutual action of currents upon one another; thermo-electricity; induction of currents; magneto-electric and dynamo-electric machines.

A candidate in Physical Science will be required, on presenting himself for examination, to hand to the Supervisor a certificate from a teacher of the subject or branch subject in an affiliated Institution that he has passed

through a course of practical work in such subject, to the satisfaction of the teacher as follows:—

(*a.*) HEAT: Use of thermometer, barometer and hygrometer; determination of the density of solids and liquids; calculation of the density of gases from observations of their temperature and pressure; calorimetry.

(*b.*) SOUND AND LIGHT: Use of goniometer, photometer, spectroscope, telescope, and microscope; determination of the curvature, focal length, and magnifying power of lenses; determination of the refractive index of solids and liquids.

(*c.*) ELECTRICITY AND MAGNETISM: Use of electrometer, galvanometer, voltameter, Wheatstone's bridge, and resistance coils; determination of the resistance of conductors and batteries; determination of the electro-motive force of batteries, and of the strength of currents; measurement of magnetic forces.

(10.) **Chemistry** (Two papers):—

The chemical relations of cohesion, heat, light, and electricity; the general principles of chemical combination, notation, and nomenclature; the description and classification of the more important elements and compounds, and of organic bodies; qualitative analysis and calculations of chemical problems; and the description of the leading chemical theories.

NOTE.—The division of this subject into two papers will be left to the discretion of the Examiner.

A candidate in Chemistry will be required, on presenting himself for examination, to hand to the Supervisor a certificate from a teacher of the subject in an affiliated Institution that he has passed a practical examination in Chemistry.

(11.) **Natural Science** (Two papers).—Either BIOLOGY or GEOLOGY, at the option of the candidate:—

(A.) BIOLOGY:—

I. GENERAL BIOLOGY.—1. General structure and physiology of the cell. 2. General structure of the simple tissues in plants and animals;

arrangement of tissues into organs and systems of organs. 3. General phenomena of nutrition, circulation, respiration, and excretion in plants and animals. 4. Elementary physiology of muscle and nerve. 5. General phenomena of reproduction, sexual and asexual, in plants and animals. 6. General phenomena of development in plants and animals. 7. Principles of classification. 8. Origin of species, heredity and variation, struggle for existence, use and disuse, degeneration, rudimentary and vestigial organs, modifications for protection and aggression, natural selection, production of varieties, connection between ontogeny and phylogeny. 9. Significance of the terms — Biogenesis, alternation of generations, parasitism, commensalism, symbiosis, metamorphosis, polymorphism ; fauna, flora, geographical range of species, barriers, modes of dispersal; fossil, succession of life in time, geological range of species.

II. Either BOTANY or ZOOLOGY, as follows :—

(*a.*) BOTANY.—1. The general morphology of the cells, tissues and organs of plants. 2. The principal characters of the classes of plants and of the following natural orders of flowering plants : Gramineæ, Cyperaceæ, Aroideæ, Liliaceæ, Irideæ, Orchideæ, Salicineæ, Labiatæ, Scrophularineæ, Solanaceæ, Primulaceæ, Ericaceæ, Campanulaceæ, Compositæ, Umbelliferæ, Myrtaceæ, Rosaceæ, Leguminosæ, Geraniaceæ, Caryophylleæ, Polygoneæ, Cruciferæ, Violarieæ, Ranunculaceæ, Amaryllideæ. 3. The structure (including histology) and life-history of the following types : Nostoc, Pleurococcus, Spirogyra, a Diatom, Closterium, Hormosira or any fucoid, Vaucheria, Volvox, Ceramium or any red sea-weed, Nitella or

Chara, Bacterium, Saccharomyces, Mucor, Penicillium, Saprolegnia, Peziza, Sticta or any lichen, Agaricus, Funaria or any moss, Marchantia or Lunularia, Pteris or any fern, Azolla, Selaginella, Pinus or Cupressus, Lilium or Hyacinthus, Vicia or Capsella or Helianthus.

(*b.*) ZOOLOGY.—1. The leading modifications of structure in the chief classes of animals. 2. The structure and life-history of the following types:—Amœba, a ciliate infusorian, hydra or any hydroid polyp, sea-anemone or any actinozoon, starfish, earthworm, crayfish, cockroach or any insect, a lamellibranch, snail or any pulmonate, a simple ascidian, a bony fish, frog, pigeon, rabbit. 3. The elements of comparative embryology. 4. The main facts in the geographical distribution of the vertebrata; the animals most characteristic of the zoo-geographical regions; the order of appearance in time of the classes of animals.

A candidate in Biology will be required, on presenting himself for examination, to hand to the Supervisor a certificate from a teacher of the subject or branch subject in an affiliated Institution that he has passed a practical examination in such subject, as follows:—

The microscopical examination of Saccharomyces, Pleurococcus or some unicellular Alga, Bacterium, and Amœba; the anatomy and histology of a flowering plant; the microscopical examination of animal and vegetable tissues.

Also for candidates in Botany, the dissection and microscopical examination of types enumerated under BOTANY 3; the dissection and description of typical plants belonging to any of the natural orders enumerated under BOTANY 2.

And for candidates in Zoology, the dissection and microscopical examination of the types enumerated under ZOOLOGY 2.

(B) GEOLOGY (Two papers):—

(*a.*) Form and size of the earth, general chemical

constitution of the crust; elements of crystallography and the classification of minerals, the principal rock-forming minerals and metallic ores, macroscopic characters and minute structure of rocks; classification of rocks according to their nature, composition and mode of origin; volcanoes and volcanic action; earthquakes, secular movements of the crust; metamorphism; the geological effects of air, water and living organisms; stratification, joints, inclination, and curvature of rocks; cleavage, faults; unconformity; mode of occurrence of igneous and metamorphic rocks; surface features due to disturbance, volcanic action, and denudation.

(*b.*) Methods employed in the classification and discrimination of fossilized remains of animals and plants. The distinguishing characters of the sub-kingdoms of animals and plants. The general structure of the hard parts of typical fossils.

The following genera are suggested for study:

Nodosaria, Globigerina, Cristellaria, Nummulites, Actinomma; Siphonia, Holtenia; Diplograptus, Millepora, Stylaster; Tubipora, Porites or Madrepora, Astræa, Flabellum, Syringopora, Zaphrentis; Encrinus, Spatangus, Cidaris; Calymene, Pterygotus, Cancer; Fenestella; Terebratula, Rhynchonella, Orthis, Productus, Spirifer, Lingula; Ostrea, Pecten, Inoceramus, Arca, Unio, Trigonia, Cardita, Venus, Tellina, Pholas; Dentalium, Patella, Pleurotomaria, Turbo, Turritella, Macrocheilus, Natica, Voluta, Murex, Limnæa; Bellerophon; Conularia: Nautilus, Orthoceras, Ceratites, Ammonites, Hamites, Belemnites; Lamna, Palæoniscus, Perca or Gadus, Ceratodus; a Urodele, Labyrinthodon; Sphenodon, Ichthyosaurus, Plesiosaurus, Pterodactylus, Compsognathus; Archæopteryx, Ichthyornis, Dinornis, Gallus; Halmaturus, Hipparion, Ovis, Felis.

Navicula, Coscinodiscus, Corallina; Pteris, Dicksonia, Equisetum, Calamites, Selaginella, Lepidodendron, Sigillaria; Dadoxylon, Araucaria, Zamia, Pinus; Cordyline, Chamærops, Quercus, Acer, Hakea.

Generalisations of Palæontology, and their bearing on the theory of evolution; significance of the terms—fauna, flora, range of species, barriers, modes of dispersal, origin, of species, natural selection, heredity, variation, struggle for existence, use and disuse, degeneration, rudimentary organs, atavism, homotaxis; geographical distribution of animals and plants in relation to geology, chronological classification of rocks, geological eras, and the characteristic fossils of the geographical periods.

A candidate in Geology will be required, on presenting himself for examination, to hand to the Supervisor a certificate from a teacher of the subject in an affiliated Institution that he passed a practical examination as follows:—

The identification and description of rocks and rock-forming minerals by means of their macroscopic characters and specific gravity. The identification and description of any of the genera mentioned under (*b*.) The identification of the genera of the more characteristic fossils. Construction of geographical maps and sections.

(12.) **Mental Science** (Two papers):—

(*a*.) PSYCHOLOGY.—Outlines of the physiology of the nervous system; instinct; the senses and the intellect; abstraction; perception. ETHICS.—the psychology of the will; the ethical standard; the moral faculty; the hedonist, intuitionalist, and utilitarian methods.

(*b*.) LOGIC.—Deductive and inductive logic.

II. No candidate shall be admitted to the degree of Bachelor of Arts unless he shall have passed in six subjects, of which two must be Latin and Pure Mathematics; and no candidate shall present himself for examination in more than two out of the four following subjects, namely, Applied Mathematics, Chemistry, Physics, and Natural Science.*

* For further restriction as to these subjects see the Statute "Terms and Lectures," Section IV.

III. The examination may be passed in two sections. Either three or four subjects of examination, one of which must be either Latin or Pure Mathematics, shall constitute the first section, which may be taken after two years' terms have been kept by the candidate: and the remaining subjects shall constitute the second section, which may be taken after three years' terms have been kept: or at the option of the candidate, all the subjects may be taken together after three years' terms have been kept.

IV. No student shall be admitted to the final examination for the degree of Bachelor of Arts who has not kept three years' terms at some institution affiliated to the University of New Zealand, unless he shall have been admitted as an undergraduate under the Statute "Admission *ad eundem*," or unless he shall be an undergraduate exempted under the Statute "Terms and Lectures," or unless he shall be a teacher who has passed prior to 1885 the first section of the examination for the degree of Bachelor of Arts under the provisions of the Statute formerly in force in that behalf.

V. Every student intending to present himself for examination shall, not later than the 1st day of September preceding the examination, signify to the Chancellor the subjects in which he shall elect to be examined.*

VI. The names of the students who pass the examination shall be placed in alphabetical order, and shall be published by the Chancellor as soon as is convenient after the receipt by him of the reports of the Examiners.

VII. A Bachelor of Science may obtain the degree of Bachelor of Arts by keeping one year's terms and passing in two of the subjects of the examination for the degree of Bachelor of Arts, on condition that the two subjects are such as he has not passed in already, and one of the two subjects must be Latin unless he has already passed in Latin.

* The Examination is held in November of each year. Places of Examination—Auckland, Gisborne, Wellington, Nelson, Greymouth, Christchurch, Dunedin, Invercargill.

VIII. A Bachelor of Laws may obtain the degree of Bachelor of Arts by passing in Pure Mathematics and in two other subjects of the examination for the degree of Bachelor of Arts, on condition that the two subjects are such as he has not passed in already.

IX. Teachers in affiliated Institutions, and certificated teachers of good repute in any school established or conducted under the provisions of an Act of the General Assembly or of a Provincial Council of this Colony, having been in the practice of their profession for at least five years, who have passed prior to 1885 the first section of the examination for the degree of Bachelor of Arts, may be admitted to the final examination on payment of the ordinary fee, without matriculation and the keeping of University terms; and on passing that examination shall be entitled to all the other privileges of graduates of the University of the same standing, anything in other Statutes of the University notwithstanding: Provided that every teacher admitted to examination under this clause shall signify to the Chancellor, not later than the 1st day of September preceding the examination, the subjects in which he shall elect to be examined.*

X. The fee for each examination for the degree of Bachelor of Arts shall be one guinea, subject to the provisions of the Statute "Conduct of University Examinations."

* By special arrangement with the Education Department, teachers who desire to obtain the certificate of Class C under the Department, are allowed to sit at the University B.A. Pass Examination on payment of the fee of one guinea; but by passing that Examination they gain no standing whatever in the University.

HONOURS IN ARTS.

I. An examination for Honours in Arts shall be held in the month of November in each year.*

II. No candidate shall be admitted to the examination for Honours excepting at the examination of the year following that in which he shall have passed for the degree of Bachelor of Arts.†

III. Candidates for Honours shall be examined in one or more of the following groups of subjects:—

Group I.—LANGUAGES AND LITERATURE: any two of the following subdivisions:—

1. LATIN.
2. GREEK
3. ENGLISH.
4. Either FRENCH or GERMAN.

Group II.—POLITICAL SCIENCE, including—

1. GENERAL HISTORY.
2. POLITICAL ECONOMY.
3. JURISPRUDENCE.
4. CONSTITUTIONAL HISTORY.

Group III.—MATHEMATICS and MATHEMATICAL PHYSICS.

Group IV.—PHYSICAL SCIENCE.

Group V.—CHEMISTRY.

Group VI.—NATURAL SCIENCE.

Group VII.—MENTAL SCIENCE.

*Places of Examination—Auckland, Wellington, Nelson, Christchurch, Dunedin.

†Candidates' notices must be sent in not later than April 8th; the fee may be sent up to May 1st; or a treble fee up to May 8th.

The subjects shall be divided as follows:—

(1.) Languages and Literature:—

(A.) LATIN (Three papers):—

(*a.*) Passages from any of the best classical Latin authors: questions on grammar, history, and antiquities.

(*b.*) Detailed examination in the history, literature, and language of a selected period.* Accurate knowledge of the principal works of one prose and one verse author.*

(*c.*) Passages for translation from English into Latin prose.

(B.) GREEK (Three papers):—

(*a.*) Passages from any of the best classical Greek authors; questions on grammar, history, and antiquities.

(*b.*) Detailed examination in the history, literature, and language of a selected period.† Accurate knowledge of the principal works of one prose and one verse author.†

(*c.*) Passages for translation from English into Greek prose.

*1894. Authors: Tacitus—Agricola, Germania, Histories: Ovid—Tristia. Period—From the death of Augustus to the death of Trajan.

1895. Authors: Cæsar—De Bello Gallico; Horace—Satires, Epistles and Ars Poetica. Period—The Ciceronian Period.

1896. Authors: Livy, Books VIII., IX., X.; Virgil—Georgics. Period—The Augustan Period.

1897. Authors: Cicero—Pro Sestio, Pro Plancio, Pro Rabirio Postumo, Pro Milone; Virgil—Æneid, Books IX., X., XI., XII.

†1894. Authors: Herodotus—Books I., II., III., IV.; Æschylus—Prometheus Vinctus, Agamemnon. Period—From Homer to the commencement of the Peloponnesian War.

1895. Authors: Thucydides—Books V., VI., VII.; Aristophanes—Knights, Clouds, Birds. Period—The Age of Pericles.

1896. Authors: Xenophon—Anabasis, Books I., II., III., IV.; Euripides—Hecuba, Medea, Orestes, Phœnissæ. Period—From the end of the Peloponnesian War to the fall of Corinth.

1897. Authors: Plato—Euthyphro, Apology, Crito, Phædo; Homer—Odyssey, IX. to XII. Period—Early to commencement of Peloponnesian War.

(C.) ENGLISH (Three papers):—

(*a.*) 1. The history and structure of the English language: questions on its philology and etymology: translations and explanations of easy passages of Anglo-Saxon prose, and of early English, to test the candidate's knowledge of the history of inflections and syntax. 2. The periods of English literature, and the principal authors of each period.

(*b.*) 1. The history of some one period of English literature.* The paper will include such questions on the matter, style, and spirit of the greatest works of the period as will test the independent reading of the candidate. 2. A detailed knowledge of the language, material sources, and characteristics of selected works of one or more authors.*

(*c.*) Essay on some subject arising out of the works selected under (*b.* 2).

NOTE.—Great importance is attached to Composition.

(D.) MODERN LANGUAGES (Three papers in each): French or German:—

(*a.*) Passages for translation at sight from and into the language chosen, questions on grammar and idiom.

*1894. Authors: Thackeray—Esmond and the Virginians; Shakespeare—The Merchant of Venice, Coriolanus, Julius Cæsar, A Midsummer Night's Dream. Period—The latter half of the Eighteenth Century.

1895. Authors: Carlyle—Sartor Resartus, Life of Sterling; Milton—Samson Agonistes, Comus, Lycidas, L'Allegro, Il Penseroso. Shelley—Prometheus Unbound, Alastor, Adonais. Period—1800 to 1850.

1896. Authors: Shakespeare—King Lear, The Tempest, Cymbeline, A Winter's Tale; George Eliot—Romola, Middlemarch. Period—1558 to 1625.

1897. Authors: Scott—The Heart of Midlothian, Rob Roy; De Quincey—Confessions of an Opium Eater; Shakespeare—Macbeth, Twelfth Night, As You Like It, Antony and Cleopatra. Period—1625 to 1688.

(*b.*) Detailed examination in the literature of a selected period. Accurate knowledge of selected works of one or more authors.*

Candidates will be expected to have such a knowledge of the selected period as may be gained from reading the principal works of the leading authors.

(*c.*) Origin, history and structure of the language. Short essay (to be written in the language) on some subject arising out of the works selected under (*b.*).

(2.) **Political Science** (Four papers):—

(*a.*) GENERAL HISTORY.—Period to be selected† year by year.

(*b.*) POLITICAL ECONOMY.—Treated more fully than for the degree of Bachelor of Arts with the addition of economical doctrines.

*1894. *French.* Authors: Corneille—Les Horaces. Cinna, Le Cid, Le Menteur; Molière—Le Misanthrope, Les Précieuses Ridicules, Le Malade imaginaire, Le Médecin malgré lui; Voltaire—Charles XII., Louis XIV. Period—The Age of Louis XIV.

German. Authors: Goethe—Aus Meinem Leben, Parts I. and II., Hermann und Dorothea; Schiller—Maria Stuart, Wallenstein. Period of Goethe and Schiller.

1895. *French.* Authors: Guizot—Histoire de la Civilisation en Europe; Molière—Le Bourgeois Gentilhomme, L'Avare; Racine—Phèdre; Corneille—Les Horaces; La Fontaine—Fables. Period—From 1789 to 1850.

German. Authors: Goethe—Tasso, Werther's Leiden: Schiller—Wallenstein (the whole trilogy), Geschichte des Abfalls der Vereinigten Niederlande. Period of Goethe and Schiller.

1896. *French.* Authors: Bossuet—Oraisons Funèbres (édition Hachette); Des Commines—Books I., II., III., IV.; Lamartine—Jocelyn; Racine—Athalie, Andromaque. Period—The Seventeenth Century.

German. Authors: Ebers—Die Schwestern; Richter—Flegeljahre, Leben des Quintus Fixlein; Freiligrath—Gedichte. Period—The Seventeenth Century.

1897. *French.* Authors: Le Sage—Gil Blas; Boileau Despréaux—Œuvres. Period—From Malherbe to Fénelon and La Bruyère.

German. Authors: Palleske—Schiller's Leben und Werke; Von Sybel—Prinz Eugen Von Savoyen; Goethe—Faust, Part I.; Schiller—Wilhelm Tell, Die Jungfrau von Orleans. Period of Goethe and Schiller.

†1894. European History, including English History, from 1558 to 1625.

1895. European History, including English History, from the beginning of the Sixth to the end of the Fourteenth Centuries.

1896. European History, including English History, from 1625 to 1688.

1897. European History, including English History, from 1688 to 1789.

(*c.*) JURISPRUDENCE.—Treated more fully than for the degree of Bachelor of Arts.

(*d.*) CONSTITUTIONAL HISTORY.—The constitutional history of England.

(3.) **Mathematics and Mathematical Physics** (Six papers) :—

(*a.*) ELEMENTARY GEOMETRY, PLANE CO-ORDINATE GEOMETRY, AND CONIC SECTIONS.—The elementary geometry shall be the same as defined for the degree of Bachelor of Arts with the addition of Euclid, Book XI., Propositions 1-21, and Book XII., Propositions 1 and 2. Deductions will be set to some or all of the propositions given.

(*b.*) ALGEBRA, TRIGONOMETRY, AND THE MORE ELEMENTARY PORTIONS OF DIFFERENTIAL AND INTEGRAL CALCULUS.—The Algebra and Trigonometry shall be the same as defined for the degree of Bachelor of Arts, with the addition of the following :—

Indeterminate coefficients; convergency and divergency of series; summation of series; interest and annuities, and the elementary theory of probability; the exponential theorem; the construction of logarithmic tables; Demoivre's theorem; Euler's series for expanding the sine and cosine of an angle in terms of its circular measure; the exponential values of the sine and cosine; the usual series for determining π; and the summation of trigonometrical series.

(*c.*) DIFFERENTIAL AND INTEGRAL CALCULUS.—Differentiation and integration of functions; expansion of functions in series; limiting values of indeterminate forms: maxima and minima values of functions of one or of two

independent variables; the change of the independent variable; the chief applications of the differential and integral calculus to the geometry of plane curves and of solids of revolution.

(*d.*) SOLID GEOMETRY AND DIFFERENTIAL EQUATIONS.—The easier parts of Solid Geometry, and Ordinary Differential equations.

(*e.*) MECHANICS AND HYDROSTATICS.—As defined for the degree of Bachelor of Arts, with the addition of statics, treated analytically, and dynamics of a particle.

(*f.*) OPTICS AND ASTRONOMY.—Geometrical Optics to a first approximation, and Spherical Astronomy.

(4.) **Physical Science.** Either—

(A.) HEAT AND SOUND AND LIGHT; or

(B.) ELECTRICITY AND MAGNETISM.

For either (A.) or (B.) three examination papers will be set; and these subjects will be treated not only experimentally, but also mathematically so far as the mathematics of the Pass Examination for the Degree of Bachelor of Arts is applicable.

The papers shall be arranged as follows:—

(*a.*) The papers set for the Senior Scholarship Examination in the branch of Physics selected.

(*b.*) A paper of wider scope than paper (*a*), and also containing somewhat more difficult problems in the branch of Physics selected.

(*c.*) A paper containing questions and problems bearing upon the syllabus of practial work hereinafter prescribed in the branch of Physics selected.

A candidate for Honours in Physical Science will be required, on presenting himself for examination, to hand to the supervisor a certificate from a teacher of Physical Science in an affiliated institution that he has performed in a satisfactory manner a course of practical work in the branch of Physics selected in accordance with the subjoined syllabus.

Syllabus of practical work prescribed for Honours in Physical Science :—

(*a.*) HEAT AND SOUND AND LIGHT: Measurement of coefficients of expansion of solids, liquids, and gases. Methods of determining specific heat, latent heat, and the heat of combination and solution. Determination of vapour density and vapour pressure. Determination of fusing and boiling points. Plotting of thermo-electric curves, and determination of temperature by means of a thermo-electric element. Methods of determining high temperatures. Determination of the mechanical equivalent of heat. Methods of measuring the velocity of sound in solids, liquids, and gases. Methods of determining and comparing the pitch of musical notes. Measurement of the angles of a crystal or a prism. Determination of the refractive index of a solid or a liquid. Comparison of spectra, and mapping spectral lines. Methods of determining the wave length of light. Measurement of the rotation of the plane of polarisation.

(*b.*) ELECTRICITY AND MAGNETISM: Determination of the temperature coefficient of the magnetic moment of a magnet. Accurate determination of the magnetic elements. Accurate use of Wheatstone's Bridge. Determination of the temperature coefficient of coils Methods of measuring high and low resistances. Methods of measuring the resistances of electrolytes and batteries. Measurement of electric potential and the construction of standards of E.M.F. Determination of the constants of a coil, with the use of the tangent galvanometer, the ballistic galvanometer, the electro-dynamometer, and the earth inductor. Methods of measuring electric currents, including transient and alternating currents. Comparison of coefficients of mutual induction, of coefficients of self-induction, and of coefficients of mutual and self-induction. Determination of the magnetic permeability of iron. Measurement of electrical capacity. Methods of measuring specific inductive capacity. Methods of testing for leaks in telegraph lines and cables.

(5.) Chemistry (Two papers) :—

THEORETICAL AND INORGANIC CHEMISTRY, together with one of the following :—

(*a.*) ORGANIC CHEMISTRY.

(*b.*) CHEMICAL TECHNOLOGY.

(*c.*) PHYSICAL CHEMISTRY.

A candidate for Honours in Chemistry will be required, on presenting himself for examination, to hand to the Supervisor a certificate from a teacher of Chemistry that he has passed a practical examination in Chemical Analysis in all its branches, and a paper (certified in like manner,) embodying the results obtained by himself in some investigation or research in Chemistry.

(6.) **Natural Science.**—One of the following branches:—

(A.) BOTANY.—Three papers to be set in this subject, the division of subjects being left to the examiner:—

1. The characters of the classes and more important orders of cryptogamic plants, and of the principal native and introduced orders of flowering plants. 2. The structure and life-history of the following types, together with those prescribed for the pass examination in Botany: Glœocapsa or Chroococcus, Sphæroplea, Oscillatoria, Pandorina, Hydrodictyon, Æthalium, Peronospora, Chytridium, Œdogonium, *Enteromorpha* or *Ulva*, *Macrocystis*, Coleochæte, Batrachospermum, Dudresnaya, Corallina, *Sphæria (Torrubia)*, Claviceps, *Collema or any gelatinous lichen*, *Usnea or any fruticose lichen*, Erysiphe, Puccinia, Empusa, *Anthoceros*, Jungermannia, Andreæa, Sphagnum, Equisetum, *Lycopodium*, *Hymenophyllum*, *Dicksonia* or *Cyathea*, Ophioglossum, *Cupressus*, Cycas, *Podocarpus* or *Taxus*, Welwitschia, *Calla*, *Phormium*, *Cordyline*, Areca, an *Orchid*, *Leptospermum*, *Helianthus* or *Taraxacum*, *Daucus*, Calamites, Lepidodendron, Sigillaria. 3. Outlines of the history of Botanical Science. 4. General morphology of the cell and tissues, laws of cell-division, formation of tissues, modes of apical growth, thallomes, caulomes, roots, phyllomes, trichomes, branches and

branch systems, symmetry. 5. The comparative embryology of plants; development of the reproductive organs, both sexual and asexual, in plants; relation between sexual and asexual generation in the various classes of plants. 6. Chemical composition of plants and plant-food, chemical processes in plants, movement of water and gases in plants, general conditions of plant-life, mechanics of growth, movements of plants. 7. The main facts of distribution of plants in time and space; the chief characters of the phytogeographical regions; bearing of the facts of distribution on the theory of evolution. 8. Generalizations of Botany: origin of species.

Practical Examination.—(The examination to last for two days, of six hours each.)—The dissection and microscopical examination of the types printed in italics under 2, above. The examination and description of examples of any of the chief native or introduced orders of flowering plants.

A candidate for Honours in Botany will be required, on presenting himself for examination, to hand to the supervisor a certificate from a teacher of Natural Science that he has passed a practical examination, and a paper (certified in like manner), embodying the results obtained by himself in some investigation or research in Botany.

(B.) ZOOLOGY.—Three papers as follows:—

(*a.*) 1. The structure, including the elements of histology, of the following animal types:—The types included in the Pass Syllabus in Zoology under § 2 and in addition:—thalassicolla, *a horny sponge*, aurelia or any Scyphomedusa, *echinus*, comatula, liver-fluke, tape-worm, any polychætous worm, *leech*, *cyclops*, *lepas*, *any native crab*, *peripatus*, *centipede*, *scorpion* (skeleton only), spider a *brachiopod*, *oyster*, any *prosobranchiate gasteropod*, octopus or any dibranchiate cephalopod, *amphioxus*, lamprey, *skate* or *dogfish*, *lizard*. 2. The skeletons of the following vertebrata, in addition to those included under (1), callorhynchus, sturgeon, ceratodus, any Urodele, turtle, sphenodon,

snake, ostrich or emu, kiwi, ornithorhynchus or echidna, kangaroo or wallaby, armadillo or ant-eater, hedge-hog, porpoise, dog, cat, seal, elephant, pig, sheep, tapir, horse, lemur, monkey, any anthropoid ape, man.

(*b.*) 1. The chief characters of the classes and orders of the animal kingdom, including the more important extinct groups. 2. The typical mode of development, and the chief deviations from it, in the various classes of animals.

(*c.*) 1. The chief facts in the development of the chick. The main facts in the distribution of the vertebrata in space and time; the chief characters of the zoogeographical regions. 3. Philosophical Zoology:— The origin of species and the problems connected therewith, including the general relations of organism and environment.

Practical work.—(The examination to last for two days of six hours each.) The dissection and microscopical examination of the types required for the pass examination, together with the forms printed in italics under paper (*a.*) 1, above, together with the examination of embryos of the chick. Candidates will also be expected to recognise and describe any characteristic part of the skeletons mentioned under paper (*a.*) 2, above, as well as any typical example of invertebrate exoskeleton.

A candidate for Honours in Zoology will be required, on presenting himself for examination, to hand to the Supervisor a certificate from a teacher of Natural Science that he has passed a practical examination, and a paper (certified in like manner), embodying the results obtained by himself in some investigation or research in Zoology.

(C.) GEOLOGY.—Three papers, the division of subjects being left to the Examiner.

The subjects for the degree of Bachelor of Arts treated more fully, together with the following:—

The microscopic character of rocks and the determination of their mineral constituents by the polariscope; deposits in lodes and mineral

veins; principles of theoretical Geology, especially in relation to cosmogony and secular climatic changes; the Geology and Palæontology of New Zealand.

Practical Examination.—The identification of the chief metallic ores. The identification of rocks by their microscopic characters. The identification and description of characteristic fossils. Field Geology.

A candidate for Honours in Geology will be required, on presenting himself for examination, to hand to the Supervisor a certificate from a teacher of Natural Science that he has passed a practical examination, and a paper (certified in like manner) embodying the results obtained by himself in some investigation or research in Geology.

(7.) **Mental Science:—**

(*a*.) PSYCHOLOGY and ETHICS, treated more fully than for the degree of Bachelor of Arts.

(*b*.) LOGIC, treated more fully than for the degree of Bachelor of Arts.

(*c*.) HISTORY OF PHILOSOPHY, ancient and modern.

IV. Every candidate for Honours shall give notice in writing of his intention to present himself for the Honours Examination, and of the subjects in which he proposes to be examined; and such notice must be sent so as to be in the hands of the Registrar by the 8th day of April preceding the examination. The fee must be paid to the Registrar by the 1st day of May, or, in default thereof, a special fee amounting to three times the ordinary fee must be paid by the 8th day of May; and if the fee is not duly paid the candidate's notice shall be void.

V. There shall be three classes of Honours—first, second and third; and the names of the successful candidates shall be arranged alphabetically in the several classes.

VI. The fee for the examination for Honours in Arts shall be one guinea, subject to the provisions of Section IV. of this Statute.

THE DEGREE OF MASTER OF ARTS.

I. Candidates for the degree of Master of Arts must have taken the degree of Bachelor of Arts, either after examination or *ad eundem*.

II. Candidates for the degree of Master of Arts shall be examined in any one of the following groups of subjects:—

Group I.—LANGUAGES and LITERATURE, any two of the following subdivisions:—

1. LATIN.
2. GREEK.
3. ENGLISH.
4. Either FRENCH or GERMAN.

Group II.—POLITICAL SCIENCE, including-

1. GENERAL HISTORY.
2. POLITICAL ECONOMY.
3. JURISPRUDENCE.
4. CONSTITUTIONAL HISTORY.

Group III.—MATHEMATICS and MATHEMATICAL PHYSICS.

Group IV.—PHYSICAL SCIENCE.

Group V.—CHEMISTRY.

Group VI.—NATURAL SCIENCE.

Group VII.—MENTAL SCIENCE.

III. The papers set for the examination for the degree of Master of Arts shall be the same as those set for the Honours Examination, and candidates will be required to show a degree of proficiency satisfactory to the Examiners, but not necessarily higher than that required for the third class in Honours.

IV. Every Bachelor of Arts intending to proceed to the degree of Master of Arts shall give notice in writing to the Registrar of his intention to present himself for examination; and of the subjects in which he elects to be examined; and such notice must be sent so as to be in the hands of the Registrar by the 8th day of April preceding the examination. The fee must be paid to the Registrar by the 1st day of May, or in default thereof, a special fee, amounting to three times the ordinary fee, must be paid by the 8th day of May; and if the fee is not duly paid, the candidate's notice shall be void.*

V. Bachelors of Arts, who may after examination have obtained Honours, shall be deemed to have passed the examination for the degree of Master of Arts.

VI. The fee for the examination for the degree of Master of Arts shall be one guinea, subject to the provisions of Section IV. of this Statute.

* The Examination is held in November at Auckland, Wellington, Nelson, Christchurch, Dunedin.

COURSE IN SCIENCE.

MATRICULATION EXAMINATION.

Identical with that for the Course in Arts.

THE DEGREE OF BACHELOR OF SCIENCE.

I. Except as provided in Sections IX. to XX. of this Statute, the subjects of examination for the degree of Bachelor of Science shall be :—*

1. MATHEMATICS.
2. PHYSICAL SCIENCE.
3. CHEMISTRY.
4. NATURAL SCIENCE.
5. LATIN.
6. GREEK.
7. ENGLISH.
8. MODERN LANGUAGES.
9. MENTAL SCIENCE.

The subjects shall be divided as follows :—

(1.) **Mathematics** (Three papers) :—

(*a.*) ELEMENTARY GEOMETRY.—Euclid, Books I., II., III., IV., and VI., together with the definitions of Book V. TRIGONOMETRY.—The elementary

* Candidates' notices must be sent in by September 1st. The examination fee must be paid at the same time, or a treble fee if sent within one week after.

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(c.) Natural Science (Two papers).—Biology, or Human Anatomy and Physiology, or Geology, at the option of the candidate:—

(A.) Biology.

[As for the degree of Bachelor of Arts.]

(B.) Human Anatomy and Physiology (Two papers):

(*a.*) Human Anatomy.—The bones, joints, muscles, heart and blood vessels and peripheral nerves. The central nervous system, the organs of special sense, the alimentary canal, the respiratory apparatus, the genito-urinary apparatus.

(*b.*) Physiology.—The microscopic structure and development of the various tissues and organs, the chemistry of the animal body, the blood and its circulation, respiration, digestion, foods and their chemical composition, secretion, absorption, excretion, animal heat, the physiology of muscle and nerve, muscular mechanisms including voice and speech, the functions of the central nervous system and of the organs of sense.

A candidate in Human Anatomy and Physiology will be required, on presenting himself for examination, to hand to the Supervisor a certificate from a teacher of the subject in an affiliated Institution that he has passed a practical examination in these subjects as follows:—

The dissection of a region of the human body; preparation, examination and description of microscopical specimens of the animal tissues and organs, chemical examination of albumen and its main derivatives, and the most important carbohydrates, milk, blood, urine, and the digestive juices.

Practical acquaintance with the most important apparatus used in the study of muscle, nerve, the heart, the blood flow, respiration, the organs of sense,

(C.) GEOLOGY.

[As for the degree of Bachelor of Arts.]

(5.) Latin Language and Literature.

[As for the degree of Bachelor of Arts.]

(6.) Greek Language and Literature.

[As for the degree of Bachelor of Arts.]

(7.) English Language and Literature.

[As for the degree of Bachelor of Arts.]

(8.) Modern Languages and Literature.

[As for the degree of Bachelor of Arts.]

(9.) Mental Science.

[As for the degree of Bachelor of Arts.]

II. Except as provided in Sections IX. to XX. of this Statute, no candidate shall be admitted to the degree of Bachelor of Science unless he shall have passed in six of the above subjects of examination, of which four must be Mathematics, Physical Science, Chemistry, and Natural Science.*

III. The scope of the examination in the foregoing subjects shall be the same as that prescribed for the degree of Bachelor of Arts in the same subject.

IV. Except as provided in Sections IX. to XX. of this Statute, the examination may be passed in two sections. Either three or four subjects shall constitute the first section, which may be taken after two years' terms have been kept by the candidate; and the remaining subjects shall constitute the second section,

* For a condition relative to these subjects, see the Statute "Terms and Lectures," Section IV.

which may be taken after three years' terms have been kept: or, at the option of the candidate, all the subjects may be taken together after three years' terms have been kept.

V. Every student intending to present himself for examination, except in Engineering, shall, not later than the 1st day of September preceding the examination, signify to the Chancellor the subjects in which he desires to be examined.*

VI. The names of the students who pass the examination shall be placed in alphabetical order, and shall be published by the Chancellor as soon as convenient after the receipt by him of the reports of the Examiners.

VII. A Bachelor of Arts may obtain the degree of Bachelor of Science by keeping one year's terms and passing in all those subjects that are compulsory for the degree of B.Sc. in which he has not passed already; except that if—having obtained the degree of B.A. under any Statute since repealed—he has already passed in three or in all of those compulsory subjects, he must substitute for one or for two compulsory subjects as the case may be, one or two of the other subjects of the B.Sc. Examination in which he has not already passed. In the case of a Bachelor of Arts seeking in this way to obtain the degree of Bachelor of Science, that part of Mathematics for the B.Sc. Examination which is identical with the Applied Mathematics for the B.A. Examination shall be reckoned as one subject.

VIII. Except as provided in Section XX. of this Statute, the fee for each examination for the degree of Bachelor of Science shall be one guinea, subject to the provisions of the Statute "Conduct of University Examinations."

IX. The degree of Bachelor of Science shall also be granted after examinations conducted by the University in any one of the

* The Examination is held in November. Places of Examination—Auckland, Wellington, Nelson, Christchurch, Dunedin.

following branches of Engineering, viz.:—Mechanical Engineering, Civil Engineering, Mining Engineering, and Metallurgical Engineering.

X. Every candidate for the degree of Bachelor of Science in Engineering must be matriculated and thereafter follow a four years' course of study and pass the examinations hereinafter prescribed.

XI. The examinations for the degree of Bachelor of Science in Mechanical Engineering shall be as follows:—

(A.) First Examination—

(1.) **Mathematics** (Three papers).

[As for the degree of Bachelor of Arts.]

(2.) **Physical Science.**

[As for the degree of Bachelor of Arts.]

(3.) **Inorganic Chemistry (One paper):—**

The chemical relations of cohesion, heat, light, and electricity; the general principles of chemical combination, notation, and nomenclature; the description and classification of the more important elements and compounds, qualitative analysis and calculations of chemical problems.

A candidate in Chemistry will be required, on presenting himself for examination, to hand to the Supervisor a certificate from a teacher of the subject in an affiliated Institution that he has passed a practical examination in Chemistry.

(4.) **Freehand Mechanical Drawing:—**

Sketching from diagrams. Sketching in elevation and plan or perspective, structures, machines or models, and fully dimensioning the same with a view to the production of working drawings.

(B.) SECOND EXAMINATION—

(1.) Elementary Mechanics & Hydrostatics:

As prescribed above for the first examination, but treated more fully.

(2.) Descriptive Geometry:—

Lettering and dimensioning, working to scale, construction to given dimensions of various geometrical figures, locating points, lines, tangents, curves, &c., setting out the ellipse, hyperbola, parabola, cycloid and other curves, projection of solids, interpenetration of solids, development of surfaces, surfaces of revolution, projection of shadows, isometrical projection, horizontal projection.

(3.) Applied Mechanics and Mechanics of Machinery:—

(1.) Force, matter, velocity, examples from practice illustrating the laws of motion, energy and inertia, graphical composition, and resolution of forces, &c. Application of the lever, compound leverage, compensating locomotive spring gear, testing and weighing machines. Theory of work, work done against uniform and varying resistances, the compression of a spring, deep pit winding, examples of wheel and axle, differential pulley, ordinary pulley tackle, the inclined plane, the wedge, the screw, different descriptions of screw threads, their relative strength and efficiency. General laws of Friction, the friction of journals, pivots, &c., rolling resistance, anti-friction wheels, anti-friction bearings, friction gripes and clutches, frictional dynamometers. Use of wheels in chains, centre of gravity, neutral axis various beam sections, the conical pendulum, various

forms of governors. Application of elementary principles of hydraulics, hydraulic motors, transmission of energy by hydraulic pressure, hydraulic machines, pumps, reaction wheels, turbines and centrifugal pumps. Application of elementary principles of pneumatics, flow of gases, chimney draught, &c.

(2.) The machine, the principal forms of constrained motion, relative motion, plane motion, virtual centre, centrode, axode, constrainment of plain motion, elements of mechanism, links, kinematic chains, relative velocities in mechanisms, spur wheel chains, wheel teeth, compound spur gearing, epicycle gearing, cam chains, dynamics of mechanism, static equilibrium, kinetic equilibrium in mechanisms, force and velocity diagrams. Altered mechanisms, expansion of elements, reduction of links, incomplete constrainment, force closure, kinematic chains on different links, quick return motions, straight line motions, the parallelogram, order of mechanisms, chains with lower and with higher pairing, ratchet and click trains, twist, spheric motion, general screw motion conic crank chains, the universal joint, bevel gearing, hyperboloidal gearing, screw wheels.

(4.) The Steam Engine (elementary):—

Early forms of Steam Engines. The improvements of Watt. Mechanical theory of heat, experiments of Rumford and Joule. Water required for condensation, laws of Boyle and Charles, expansion of steam, super-heating, the steam jacket, the compound engine, the slide valve, other types of valves, automatic expansion gears, link motion, other kindred valve gears, valve setting, the governor, the indicator, I.H.P. brake, H.P. Details, various types of stationary, marine, and locomotive engines. Steam generators. Boiler mountings, &c.

(C.) THIRD EXAMINATION—

(1.) **Mathematics** (Two papers):—

(*a.*) *Elementary Geometry, Plane Co-ordinate Geometry, and Conic Sections.*—The elementary geometry shall be Euclid, Books I., II., III., IV., the definitions of Book V., Book VI., Book XI., Propositions 1-21, and Book XII., Propositions 1 and 2. Deductions will be set to some or all of the propositions given.

(*b.*) *Algebra, Trigonometry, and the more elementary portions of Differential and Integral Calculus.*—The algebra and trigonometry shall be the same as defined for the degree of Bachelor of Science, with the addition of the following:—

Indeterminate coëfficients: convergency and divergency of series; summation of series; interest and annuities, and the elementary theory of probability; the exponential theorem; the construction of logarithmic tables; Demoivre's theorem; Euler's series for expanding the sine and cosine of an angle in terms of its circular measure; the exponential values of the sine and cosine; the usual series for determining π; and the summation of trigonometrical series.

(2.) **The Steam Engine (advanced)**:—

The steam engine a heat engine, economical generation of steam, general design and proportions of steam generators, relations of grate and heating surface, flue area, rate of combustion, &c. Practical construction of the boiler, proportions of stays, joints, plating, &c. The efficient expansion of steam, proportions of cylinders, jackets and receivers, jacket drainage, condenser and air pump proportions,

governors and valve gear mathematically considered, the crank and connecting rod, magnitude of twisting moment, inertia of moving parts, counterbalancing, the fly wheel. Design and proportion of details. Designing for special conditions, practical use of the indicator, gas, hot air and petroleum engines.

(3.) **Strength of Materials in Construction:—**

The physical nature of the various materials used in engineering work, their preparation and treatment. Stress, tensile, compressive shearing and torsional elastic limit, absolute strength, permanent set, factor of safety, experiments and deductions of Wöhler and Bauschinger, strength of pinned, bolted, coltered, and rivetted joints. Bending, strength of beams and girders, deflection of beams, compression and bending strength of pillars, strength of vessels subjected to fluid pressure, staying, strength of stayed surface. Stresses in bridge, roof, and other framed structures. Bridge and roof design and construction.

(4.) **Mechanical Drawing and Designing:—**

Application of geometry to problems in wood or metal, setting out wheel teeth, screw, shew and worm gearing, designing and drawing details, preparation of working drawings from outline data or sketches, graphic statics, colouring, printing and finishing.

(5.) **Laboratory Practice:—**

Carrying out experiments on (and tabulating results)—The calorific power of fuels, efficiency of steam boilers, steam engines, and other prime movers under different conditions. The ultimate strength and limit of elasticity

of various materials, joints, and constructive details. The practical use of the indicator and frictional dynamometer. Frictional resistances of journals and pivots—fluid resistances of journals and pivots—fluid resistances, &c., &c.

(D.) FOURTH EXAMINATION—

(1.) Mathematics:—

Differential and Integral Calculus and Analytical Statics (a special paper of less degree of difficulty than those set in the examinations for Honours in Mathematics.)

(2.) Mechanical Drawing and Designing:—

Application of geometry to problems in wood or metal, setting out wheel teeth, screw, shew and worm gearing, designing and drawing details, preparation of working drawings from outline data or sketch, graphic, statics, colouring, printing and finishing.

(3.) Laboratory Practice:—

Carrying out experiments on (and tabulating results) —The calorific power of fuels, efficiency of steam boilers, steam engines, and other prime movers under different conditions. The ultimate strength and limit of elasticity of various materials, joint and constructive details. The practical use of the indicator and frictional dynamometer. Frictional resistances of journals and pivots—fluid resistances, &c., &c.

(4.) Theory of Workshop Practice:—

Pattern making, founding and casting, the smith's shop, fitting, the machine shop, machine tools,

labour saving appliances, lifting appliances, arrangement and location of buildings, fire prevention, motive power, economical conditions, supervision and arrangement of work, division of labour, estimating, contracting, workshop accounts.

(5.) One of the following: —

(*a.*) NAVAL ARCHITECTURE AND MARINE ENGINEERING.—Displacement, buoyancy, centre of buoyancy, proportions of vessels, beam, freeboard, depth, stability, motions of vessels amongst waves, lateral resistance, sail carrying power, action of the rudder, resistance of water, wave line theory, stream line theory, wave form theory, Froude's experiments, surface friction, steam propulsion, the screw propeller, its theory, form and action, hydraulic propulsion, laying down, taking off, modern steel shipbuilding, deck and other fittings, main engines and boilers, war ship design and construction.

(*b.*) LOCOMOTIVE AND RAILWAY ENGINEERING.—History of the locomotive, the boiler, the engines, the frame, running and spring gear, mountings and fittings, locomotive valve gears, types of locomotives, simple and compound, steep gradient locomotives, locomotive performance, locomotive designing, the construction of locomotives, work in smithy, pattern, foundry, boiler, fitting and erecting shops, arrangement of locomotive and railway works, special tools required, locomotive repairs, locomotive running, continuous brakes, car and waggon stock, its design, manufacture and upkeep, turntables, traversers, wheel drops, engine lifts, water cranes, coaling arrangements, points and crossings, signals and interlocking gear, mechanical and electrical.

(*c.*) ENGINEERING APPLIED TO ARTS AND MANUFACTURES.—Manufacture of iron and steel, manufacture of gas for lighting and heating purposes, agricultural machinery, flour milling machinery, machinery used in the production of textile fabrics, paper making machinery, mining machinery, the manufacture of war material, distribution of power.

(*d.*) ELECTRICAL ENGINEERING, including—

(1.) *Electricity and Magnetism*, the subject being treated not only experimentally but also mathematically as far as the Mathematics of the Pass Examination for the degree of Bachelor of Science is applicable. Three papers:—

(*a.*) The paper set in the subject for the Senior Scholarship Examination.

(*b.*) A paper of wider scope than paper (*a.*), and also containing somewhat more difficult problems.

(*c.*) A paper containing questions and problems bearing upon the syllabus of practical work hereinafter prescribed.

A candidate in Electricity and Magnetism will be required, on presenting himself for examination, to hand to the Supervisor a certificate from a teacher of Physical Science in an affiliated Institution that he has performed in a satisfactory manner a course of practical work in the subject, in accordance with the subjoined syllabus:—

ELECTRICITY AND MAGNETISM: Determination of the temperature coëfficient of the magnetic moment of a magnet. Accurate determination of the magnetic elements. Accurate use of Wheatstone's Bridge. Determination of the temperature coëfficient of coils. Methods of measuring high and low resistances. Methods of measuring the resistances of electrolytes and batteries. Measurement of electric potential and the construction of standards of E.M.F. Determination of the constants of a coil, with the use of the tangent galvanometer, the ballistic galvanometer, the electrodynamometer, and the earth inductor. Methods of measuring electric currents, including transient and alternating currents

Comparison of coëfficients of mutual induction, of coëfficients of self-induction, and of coëfficients of mutual and self-induction. Determination of the magnetic permeability of iron. Measurement of electrical capacity. Methods of measuring specific inductive capacity. Methods of testing for leaks in telegraph lines and cables.

(2.) *Electrical Engineering.*—Current, potential, conductors, insulators, practical units, primary batteries, measurement of current strength, resistance, electro motive force. Electro magnets, dynamo-electric machines, alternating and direct current. Motors and their applications, transformers, secondary batteries, arc lamps, incandescent lamps, photometry, meters, installations for lighting and power transmission, central stations, prime movers, electric railways, conditions of commercial success, telpherage. Electric heating, welding, &c.

XII. The examinations for the degree of Bachelor of Science in CIVIL ENGINEERING shall be as follows :—

(*a.*) FIRST EXAMINATION—

(1.) **Mathematics**, as prescribed above for the First Examination in Mechanical Engineering.

(2.) **Physical Science**, as prescribed above for the First Examination in Mechanical Engineering.

(3.) **Inorganic Chemistry**, as prescribed above for the First Examination in Mechanical Engineering.

(4.) **Freehand Mechanical Drawing**, as prescribed above for the First Examination in Mechanical Engineering.

(*b.*) SECOND EXAMINATION—

(1.) **Elementary Mechanics and Hydrostatics**, as prescribed above for the Second Examination in Mechanical Engineering.

(2.) **Descriptive Geometry**, as prescribed above for the Second Examination in Mechanical Engineering.

(3.) **Applied Mechanics and Mechanics of Machinery**, as prescribed above for the Second Examination in Mechanical Engineering.

(4.) **Physical Geology**:—Form and size of the earth, general chemical construction of the crust; elements of crystallography and the classification of minerals, the principal rock-forming minerals and metallic ores, macroscopic characters and minute structure of rocks; classification of rocks according to their nature, composition, and mode of origin; volcanoes and volcanic action; earthquakes, secular movements of the crust; metamorphism; the geological effects of air, water, and living organisms, stratification, joints, inclination, and curvature of rocks; cleavage, faults; unconformity; mode of occurrence of igneous and metamorphic rocks; surface features due to disturbance, volcanic action and denudation.

(5.) **Practical Surveying**:—Measurement of lines and angles with chain, chain triangulation, simple topographical work, keeping field book, calculation of areas, levelling.

(*c.*) THIRD EXAMINATION—

(1.) **Mathematics**, as prescribed above for the Third Examination in Mechanical Engineering.

(2.) **Strength of Materials in Construction,** as prescribed above for the Third Examination in Mechanical Engineering.

(3.) **Mechanical Drawing and Designing,** as prescribed above for the Third Examination in Mechanical Engineering.

(4.) **Laboratory Practice,** as prescribed above for the Third Examination in Mechanical Engineering.

(5.) **Building Construction** :—Materials, excavating, scaffolding, walling, brickwork, masonry, chimneys, stairs in wood, iron, and stone, flooring ordinary and fire-proof, timber roof trusses, roof coverings, skylights, windows, doors, &c., plasterer, plumber, drains and sewers, arches, brick and masonry bridge and viaduct construction, iron, roof trusses, &c.

(*d.*) FOURTH EXAMINATION—

(1.) **Mathematics,** as prescribed above for the Fourth Examination in Mechanical Engineering.

(2.) **Mechanical Drawing and Designing,** as prescribed above for the fourth Examination in Mechanical Engineering.

(3.) **Advanced Surveying, including Geodesy** : — Traversing with chain and theodolite, calculation of areas by mean longitudes, advanced topographical surveying, minor triangulation, advanced levelling, telemetry and use of plane table, river and marine surveying.

Geodetic survey, primary triangulations,

meridianal circuits, engineering surveys, measurement of earthwork.

(4.) **Laboratory Practice,** as prescribed above for the Fourth Examination in Mechanical Engineering.

(5.) **Civil Engineering :—**

(*a.*) *Borough Engineering :*—Laying out and constructing of roads, location of towns, street formation, paving, channelling and curbing, surface draining and sewerage, warming and lighting public buildings, ventilation, water conservation and supply, irrigation.

(*b.*) *Railway Engineering :*—Reconnaissance, location, grades, gauge, and curves, earthwork, bridges, tunnelling, permanent way, signalling arrangements, stations, goods yards, station buildings and engine sheds, steep gradients, light railways, street tramways.

(*c.*) *Marine Engineering :*—Internal navigation, river construction, locks, inclined planes and lifts, ship canals, harbour works, wharves, docks, slips, graving docks, breakwaters, lighthouses, &c.

XIII. In Mechanical Engineering and in Civil Engineering the first examination may be taken by the candidate at the end of one year's terms after matriculation, and the second examination at the end of one year's terms after the candidate has passed the first examination; or, at the option of the candidate, the first and second examinations may be passed together at the end of two years' terms from the candidate's matriculation. The third examination may be passed at the end of one year's terms after the candidate has passed the second examination, and the fourth examination may be passed at the end of one year's terms after the candidate has passed the third examination; or, at the option of the candidate, the third and fourth examinations may

be passed together at the end of two year's terms after the candidate has passed the second examination: Provided that no candidate shall be considered as having passed the second examination unless he has passed the first, nor the fourth unless he has passed the third. Each candidate for any of these examinations must forward to the Registrar, at least fifteen days before the date of the examination, a certificate that he has regularly attended, at a school of Engineering recognised by the University, the course of instruction in each of the subjects in which he intends to offer himself for examination.

The following Engineering Schools are recognised by the University:—Canterbury College in Mechanical and Civil Engineering; Otago University in Mining and Metallurgical Engineering.

XIV. The course in MINING ENGINEERING shall be as follows:—*

(*a.*) *First and Second Years*—

Mathematics, as prescribed above for Mechanical and Civil Engineering.

Physical Science, as prescribed above for Mechanical and Civil Engineering.

Inorganic Chemistry, as prescribed above for Mechanical and Civil Engineering.

PHYSICAL GEOLOGY.

FREEHAND DRAWING.

(*b.*) *Third and Fourth Years*—

MINING GEOLOGY.

MINERALOGY.

USE OF THE BLOW-PIPE AND DETERMINATIVE MINERALOGY.

PETROGRAPHY.

MINING.

* The details of all the subjects except the first three will be arranged for in 1894.

GENERAL METALLURGY AND ORE-PRESSING.

ASSAYING.

APPLIED MECHANICS.

MINE AND LAND SURVEYING AND LEVELLING.

DRAWING.

The first examination shall be taken not sooner than the end of the candidate's second year, and the second examination not sooner than two years after the passing of the first examination.

XV. The course in METALLURGICAL ENGINEERING shall be as follows:—*

(*a.*) *First and Second Years*—

Mathematics, as prescribed for Mechanical and Civil Engineering.

Physical Science, as prescribed for Mechanical and Civil Engineering.

Inorganic Chemistry, as prescribed for Mechanical and Civil Engineering.

PHYSICAL GEOLOGY.

FREEHAND DRAWING.

(*b.*) *Third and Fourth Years*—

MINING GEOLOGY.

MINERALOGY.

USE OF THE BLOW-PIPE AND DETERMINATIVE MINERALOGY.

QUANTITATIVE CHEMICAL ANALYSIS.

GENERAL METALLURGY AND ORE-DRESSING.

* The details of all the subjects except the first three will be arranged for in 1894.

SPECIAL METALLURGY.

ASSAYING AND EXTENDED PRACTICE IN ASSAY LABORATORY.

APPLIED MECHANICS.

MINE AND LAND SURVEYING AND LEVELLING.

DRAWING.

The first examination shall be taken not sooner than the end of the candidate's second year, and the second examination not sooner than two years after the passing of the first examination.

XVI. In all classes of Engineering the student must, after matriculation, and before obtaining his degree, spend a certain time in practical work. In (1) Mechanical Engineering, he must spend eighteen months in approved workshops; in (2) Civil Engineering, nine months in workshops, and nine months under a Civil Engineer in actual practice; in (3) Mining Engineering, at least twelve months practical work in a mine; in (4) Metallurgical Engineering, at least twelve months in smelting works for silver, copper, tin, and lead.

XVII. A student who has already, in order to qualify himself for a degree in this University, passed in any subject as above defined shall be exempt from examination in such subject, and any graduate in Science shall be entitled to take his course in two years provided that no subject of his Engineering Course be omitted.

XVIII. Every candidate for any examination in Engineering shall, not later than the 1st day of July preceding the examination, signify to the Chancellor the subjects in which he desires to be examined.

XIX. The fee for each of the four examinations in Mechanical and in Civil Engineering shall be three guineas. The fee for each of the two examinations in Mining and in Metallurgical Engineering shall be six guineas. But in the case of a graduate in Science taking the Engineering Course in two

years the fee shall be one guinea for each paper, provided that he shall not be required to pay more than twelve guineas for all the papers. Payment of all these fees shall be subject to the provisions of the Statute "Conduct of University Examinations."

XX. The fee for the degree of Bachelor of Science in Engineering shall be seven guineas.

HONOURS IN SCIENCE.

I. A candidate for Honours in Science must present himself for examination within one year after receiving the degree of Bachelor of Science.*

II. Candidates for Honours shall pass an examination in one of the following subjects :—

1. MATHEMATICS AND MATHEMATICAL PHYSICS.
2. PHYSICAL SCIENCE.
3. CHEMISTRY.
4. NATURAL SCIENCE.
5. PHYSIOLOGY.
6. MENTAL SCIENCE.

The subject shall be defined as follows :—

(1.) **Mathematics and Mathematical**

* Candidates' notices for examination must be sent in to the Registrar not later than April 8th. The fee of one guinea may be sent up to May 1st, or three guineas up to May 8th.

Physics (Six papers) :—

(*a.*) ELEMENTARY GEOMETRY, PLANE CO-ORDINATE GEOMETRY, AND CONIC SECTIONS.—The elementary geometry shall be the same as defined for the degree of Bachelor of Science, with the addition of Euclid, Book XI., Propositions 1-21, and Book XII., Propositions 1 and 2.

Deductions will be set to some or all of the propositions given.

(*b.*) ALGEBRA, TRIGONOMETRY, AND THE MORE ELEMENTARY PORTIONS OF DIFFERENTIAL AND INTEGRAL CALCULUS.—The algebra and trigonometry shall be the same as defined for the degree of Bachelor of Science, with the addition of the following :—

Indeterminate coëfficients : convergency and divergency of series ; summation of series ; interest and annuities, and the elementary theory of probability ; the exponential theorem ; the construction of logarithmic tables ; Demoivre's theorem ; Euler's series for expanding the sine and cosine of an angle in terms of its circular measure ; the exponential values of the sine and cosine ; the usual series for determining π ; and the summation of trigonometrical series.

(*c.*) DIFFERENTIAL AND INTEGRAL CALCULUS.—Differentiation and integration of functions ; expansion of functions in series ; limiting values of indeterminate forms ; maxima and minima values of functions of one or of two independent variables ; the change of the independent variable ; the chief applications of the differential and integral calculus to the geometry of plane curves and of solids of revolution.

(*d.*) SOLID GEOMETRY AND DIFFERENTIAL EQUATIONS.—The easier parts of Solid Geometry, and Ordinary Differential equations.

(*e.*) MECHANICS AND HYDROSTATICS.—As defined for the degree of Bachelor of Arts, with the addition of statics, treated analytically, and dynamics of a particle.

(*f.*) OPTICS AND ASTRONOMY.—Geometrical Optics to a first approximation, and Spherical Astronomy.

(2.) **Physical Science.** Either—

(A.) HEAT AND SOUND AND LIGHT; or

(B.) ELECTRICITY AND MAGNETISM.

For either (A) or (B) three examination papers will be set; and these subjects will be treated not only experimentally, but also mathematically so far as the mathematics of the Pass Examination for the degree of Bachelor of Arts is applicable. The papers shall be arranged as follows:—

(*a.*) The paper set for the Senior Scholarship Examination in the branch of Physics selected.

(*b.*) A paper of wider scope than paper (*a*), and also containing somewhat more difficult problems in the branch of Physics selected.

(*c.*) A paper containing questions and problems bearing upon the syllabus of practical work hereinafter prescribed in the branch of Physics selected.

A candidate for Honours in Physical Science will be required, on presenting himself for examination, to hand to the Supervisor a certificate from a teacher of Physical Science in an affiliated institution that he has performed in a satisfactory manner a course of practical work in the branch of Physics selected in accordance with the subjoined syllabus.

Syllabus of practical work prescribed for Honours in Physical Science:—

(*a.*) HEAT AND SOUND AND LIGHT: Measurement of coëfficients of

expansion of solids, liquids, and gases. Methods of determining specific heat, latent heat, and the heat of combination and solution. Determination of vapour density and vapour pressure. Determination of fusing and boiling points. Plotting of thermo-electric curves, and determination of temperature by means of a thermo-electric element. Methods of determining high temperatures. Determination of the mechanical equivalent of heat. Methods of measuring the velocity of sound in solids, liquids, and gases. Methods of determining and comparing the pitch of musical notes. Measurement of the angles of a crystal or a prism. Determination of the refractive index of a solid or a liquid. Comparison of spectra, and mapping spectral lines. Methods of determining the wave length of light. Measurement of the rotation of the plane of polarisation.

(*b.*) ELECTRICITY AND MAGNETISM: Determination of the temperature coëfficient of the magnetic moment of a magnet. Accurate determination of the magnetic elements. Accurate use of Wheatstone's Bridge. Determination of the temperature coëfficient of coils. Methods of measuring high and low resistances. Methods of measuring the resistances of electrolytes and batteries. Measurement of electric potential and the construction of standards of E.M.F. Determination of the constants of a coil, with the use of the tangent galvanometer, the ballistic galvanometer, the electro-dynamometer, and the earth inductor. Methods of measuring electric currents, including transient and alternating currents. Comparison of coëfficients of mutual induction, of coëfficients of self-induction, and of coëfficients of mutual and self-induction. Determination of the magnetic permeability of iron. Measurement of electrical capacity. Methods of measuring specific inductive capacity. Methods of testing for leaks in telegraph lines and cables.

(3.) Chemistry (Two papers):—

THEORETICAL AND INORGANIC CHEMISTRY, together with one of the following:—

(*a.*) ORGANIC CHEMISTRY

(*b.*) CHEMICAL TECHNOLOGY.

(*c.*) PHYSICAL CHEMISTRY.

A candidate for Honours in Chemistry will be required, on presenting himself for examination, to hand to the Supervisor a certificate from a teacher of Chemistry that he has passed a practical examination in Chemical Analysis in all its branches, and a paper (certified in like manner,) embodying the results obtained by himself in some investigation or research in Chemistry.

(4.) **Natural Science.**—One of the following branches:—

(A.) BOTANY.—Three papers to be set in this subject, the division of subjects being left to the Examiner:—

1. The characters of the classes and more important orders of cryptogamic plants, and of the principal native and introduced orders of flowering plants. 2. The structure and life-history of the following types, together with those prescribed for the pass examination in Botany: Glœocapsa or Chroococcus, Sphæroplea, Oscillatoria, Pandorina, Hydrodictyon, Æthalium. Peronospora, Chytridium, Œdogonium, *Enteromorpha* or *Ulva*, *Macrocystis*, Coleochæte, Batrachospermum, Dudresnaya, Corallina, *Sphæria (Torrubia)*, Claviceps, *Collema or any gelatinous lichen*, *Usnea or any fruticose lichen*, Erysiphe, Puccinia, Empusa, *Anthoceros*, Jungermannia, Andreæa, Sphagnum, Equisetum, *Lycopodium*, *Hymenophyllum*, *Dicksonia* or *Cyathea*, Ophioglossum, *Cupressus*, Cycas, *Podocarpus* or *Taxus*, Welwitschia, *Calla*, *Phormium*, *Cordyline*, Areca, an *Orchid*, *Leptospermum*, *Helianthus* or *Taraxacum*, *Daucus*, Calamites, Lepidodendron, Sigillaria. 3. Outlines of the history of Botanical Science. 4. General morphology of the cell and tissues, laws of cell-division, formation of tissues, modes of apical growth, thallomes, caulomes, roots, phyllomes, trichomes, branches and branch systems, symmetry. 5. The comparative embryology of plants; development of reproductive organs, both sexual and asexual in plants, relation between sexual and asexual generation in the various classes of plants. 6. Chemical composition of plants and plant-food, chemical processes in plants, movement of water and gases in plants, general conditions of plant-life, mechanics of growth, movements

of plants. 7. The main facts of the distribution of plants in time and space; the chief characters of the phyto-geographical regions; bearing of the facts of distribution on the theory of evolution. 8. Generalizations of Botany; origin of species.

Practical Examination.—(The examination to last for two days, of six hours each.)—The dissection and microscopical examination of the types printed in italics under 2, above. The examination and description of examples of any of the chief native or introduced orders of flowering plants.

A candidate for Honours in Botany will be required, on presenting himself for examination, to hand to the Supervisor a certificate from a teacher of Natural Science that he has passed a practical examination, and a paper (certified in like manner,) embodying the results obtained by himself in some investigation or research in Botany.

(B.) ZOOLOGY.—

[As for Honours in Arts.]

(C.) GEOLOGY.

[As for Honours in Arts.]

(5.) **Physiology.**—HUMAN ANATOMY AND PHYSIOLOGY (Three papers):—

(*a.*) HUMAN ANATOMY as prescribed for the degree of Bachelor of Science, but treated more fully.

(*b.*) ANIMAL PHYSIOLOGY as prescribed for the degree of Bachelor of Science (omitting Embryology and Histology), but treated more fully.

(*c.*) 1. HISTOLOGY, the microscopic structure of the various tissues and organs. 2. EMBRYOLOGY, the changes produced in the ovum by impregnation, the development of the embryo and the fœtal membranes, the placenta, the changes which take place at birth, the development of the various tissues and organs.

A candidate for Honours in Physiology will be required, on presenting himself for examination, to hand to the Supervisor a certificate from a teacher

of anatomy in an affiliated institution that he has dissected the whole of the human body at least once in a satisfactory manner; together with a certificate from a teacher of physiology in an affiliated institution that he has gone through a course of practical work in Histology and Physiology as follows:—

The preparation and examination of microscopic specimens of the animal tissues and organs, the chemistry of the more important animal proteids, carbohydrates and fats, the chemical composition of blood lymph, milk, urine, and the various digestive juices, the use of the apparatus required in the study of muscle, nerve, the heart, the blood flow, respiration, and the organs of sense.

(6.) **Mental Science** (Three papers):—

(*a.*) PSYCHOLOGY AND ETHICS, treated more fully than for the degree of Bachelor of Science.

(*b.*) LOGIC, treated more fully than for the degree of Bachelor of Science.

(*c.*) HISTORY OF PHILOSOPHY, ancient and modern.

III. Every candidate for Honours shall give notice in writing of his intention to present himself for the Honours Examination, and of the subjects in which he proposes to be examined; and such notice must be sent so as to be in the hands of the Registrar by the 8th day of April preceding the Examination. The fee must be paid to the Registrar by the 1st day of May, or, in default thereof, a special fee amounting to three times the ordinary fee must be paid by the 8th day of May; and if the fee is not duly paid the candidate's notice shall be void.

IV. In each of the Honours subjects, with the exception of Mathematics and Mental Science, candidates shall be required to pass a practical examination.

V. The scope of the examination in all the Honours subjects shall be the same as that prescribed for candidates for Honours in Arts.

VI. There shall be three classes of Honours—first, second, and third; and the names of the successful candidates shall be arranged alphabetically in the several classes.

VII. The fee for the Examination for Honours in Science shall be one guinea, subject to the provisions of Section III. of this Statute.*

THE DEGREE OF DOCTOR OF SCIENCE.

1. The degree of Doctor of Science shall be given for special excellence in some branch of study included in the schedule of subjects prescribed in the Statute "Honours in Science."

II. Before presenting himself for the degree of Doctor of Science, a candidate must have passed the examination prescribed for Honours in the branch of study in which he proposes to establish a claim to the degree of Doctor, and must at the examination have given evidence of such proficiency as would entitle an Honours candidate to be placed in the first class.

III. A candidate must give notice of his intention to the Registrar, and pay him a fee of five guineas, at the time prescribed in the Calendar for giving notice of entry for examination for degrees, and must at the same time intimate the particular branch of scientific study upon a knowledge of which he relies as a qualification for admission to the degree of Doctor. He must at the same time transmit to the Registrar a dissertation or thesis on some special department of the particular branch of study, embodying the result of original work, and tending to the advantage of scientific knowledge. Accompanying the dissertation or thesis there must be a synopsis of the bibliography of the topic of the dissertation or thesis. The Examiners may take into their consideration any published work on paper written by the candidate, and bearing direct relation to the special branch of study selected by him.

* The Examination is held in November. Places of Examination—Auckland, Wellington, Nelson, Christchurch, Dunedin.

IV. The Examiners shall make a report to the Chancellor, in which they shall state whether in their judgment the candidate is entitled to the degree.

V. No candidate shall present himself for the degree of Doctor of Science until at least five years after passing the Examination for the degree of Bachelor of Science.*

* The Examination is held in November.

COURSE IN MEDICINE.

[An Order of Her Majesty in Council, 1888, directs that the provisions of Part II. of the Imperial "Medical Act, 1886," shall be applicable to New Zealand. In consequence, the General Council of Medical Education and Registration of the United Kingdom has resolved, under the powers conferred on it by Section 13 of the said Act, that Graduates of the University of New Zealand shall be admitted to registration on the "Colonial Register."]

THE REGISTRATION OF MEDICAL STUDENTS.

I. Every medical student of the University must be registered as such, and must be on the books of the University as a matriculated student.

II. No medical student shall be registered unless he either has passed in all the subjects of the Preliminary Examination of Medical Students, or is a graduate of a University in Arts or Science; nor until he has produced evidence of having commenced medical study.

III. The commencement of medical study shall not be reckoned as dating earlier than fifteen days before the date of registration.

IV. No candidate shall be admitted to the final examination for the degree of Bachelor of Medicine whose name has not been on the Medical Register for at least fifty-four months previously, except in the case of candidates exempt from examination in at least two of the subjects of the Intermediate Examination under Section IX. of the Statute "The degrees of Bachelor of Medicine and Bachelor of Surgery," who shall be treated as though their registration has been antedated twelve months.

V. The Registrar shall keep the Register of Medical Students

according to the subjoined form :—

University of New Zealand.

Date of Registration.	Name.	Preliminary Examination and Date.	Place and Date of Commencement of Medical Study, as certified by a Master, Teacher or Official in a Medical School or Hospital.

VI. The Registrar shall furnish extracts from the Register of the particulars of their registration to all students on application.

VII. All persons desirous of being registered as medical students shall apply to the Registrar according to the subjoined form :—

"I hereby apply to be registered as a student in Medicine in conformity with the Regulations of the General Council of Medical Education and Registration of the United Kingdom, for which purpose I submit the following particulars :—

Name of Applicant.		Preliminary Examination.	Date of Preliminary Examination.	Place and Date of Commencement of Medical Study.
Surname.	Christian Name.			

Applicant's Signature .....

Address .....

Date of Application .....

VIII. The certificate of commencement of medical study shall be in this form:—

"I hereby certify that Mr. has commenced the study of Medicine in

[*Signature of Master, or Teacher, or Official, in Medical School.*]

"To the Registrar
of the University of New Zealand."

For the purposes of this certificate the signatures of the teachers of Biology, Chemistry and Physics, in any of the affiliated colleges, will be accepted.

IX. The fee for medical registration shall be two guineas.

THE PRELIMINARY EXAMINATION OF MEDICAL STUDENTS.

[NOTE.—The Preliminary Medical Examination and the course of study of Medical Students in New Zealand are accepted *pro tanto* by the Universities of London, Cambridge, and Edinburgh.

The Preliminary Medical Examination also qualifies for registration in England.

At Cambridge and Edinburgh, students who have kept two years' terms in the University of New Zealand can enter and complete their medical course at those Universities. The University of London and the Royal College of Physicians and Surgeons of England accept from the University of New Zealand certificates of attendance at all the classes in the Medical curriculum.

Medical Students desiring to proceed to Cambridge are specially advised to obtain from the Registrar of the University, before they leave the Colony, the certificate of attendance at lectures in New Zealand, duly attested in the form specified by the University of Cambridge.]

I. Candidates for the Preliminary Medical Examination* must pass in the following subjects:—

1. ENGLISH LANGUAGE.—Grammar, composition, with précis-writing.

2. LATIN, including grammar, translation from specified authors, and translation of easy passages not taken from such authors; translation of easy passages from English into Latin.

Prescribed Book:—1894, Cicero, De Officiis, Book I.; 1895, the same, Book II.; 1896, the same, Book III.; 1897, the same, Book I.

ELEMENTS OF MATHEMATICS:—

(*a.*) ARITHMETIC.—Fundamental rules, vulgar and decimal fractions, proportion, square root.

(*b.*) ALGEBRA, to simple equations inclusive, with easy problems.

(*c.*) GEOMETRY.—Euclid, Books I., II., and III., with easy questions on subject-matter of the same.

4. One of the following subjects:—

(1.) GREEK.

(2.) FRENCH.

(3.) GERMAN.

NOTE.—The papers of the Matriculation Examination will be used, additional questions for Medical candidates being set in Latin and Geometry.

II. Any student who has passed the first section of the examination for the degree of Bachelor of Arts, or Bachelor of Science, or Bachelor of Laws, may be registered as a Medical

* The Examination is held in December. Places of Examination—Auckland, Gisborne, Napier, Wanganui, Wellington, Nelson, Greymouth, Christchurch, Timaru, Oamaru, Dunedin, and Invercargill.

Student on passing in such subjects of the Preliminary Medical Examination as he did not pass at Matriculation, and has not passed in a subsequent University Examination.

III. The fee for the Preliminary Medical Examination shall be two guineas, subject to the provisions of the Statute, "Conduct of University Examinations."

THE DEGREES OF BACHELOR OF MEDICINE AND BACHELOR OF SURGERY.

I. There shall be an Intermediate Examination, and three Professional Examinations, for the degrees of Bachelor of Medicine and Bachelor of Surgery.

II. These shall be conducted, as far as possible, both by written questions and by *vivâ voce* and practical examinations.

III. There shall be two Examiners at every oral and clinical examination.

IV. Excellence in one or more subjects at an examination shall not compensate for failure in others.

V. A candidate who has failed in any of the subjects of the Intermediate Examination, or in the first or second Professional Examinations, may be admitted to a special examination, to be held in the month of April, if the Examiners so recommend. A candidate who fails in this special examination must keep terms before he can be re-admitted to examination in November; and candidates not so recommended by the Examiners, and all those who fail to pass the third Professional Examination, must keep terms for one year before they can be re-admitted to examination.

THE INTERMEDIATE EXAMINATION.

VI. The Intermediate Examination shall be held* not sooner than November in the candidate's first year, and shall include:—

(1.) **Biology** (One paper):—

I. GENERAL BIOLOGY as for the degrees of Bachelor of Arts and Bachelor of Science, but of a lower standard.

II. The structure and life-history of the following types of plants and animals:—*Bacterium, Saccharomyces, Mucor, Penicillium, Spirogyra, Nitella or Chara;* Moss, Fern, Selaginella, any Gymnosperm, any Angiosperm. *Amœba, Hæmatococcus, Vorticella or any Ciliate Infusorian; Hydra or any Hydroid Polyp;* Fasciola, Tænia, *Earthworm*, Leech, *Paranephrops or Palinurus; Mytilus, or Chione;* Boltenia, or any simple Ascidian; Amphioxus, Geotria, Raia, or Mustelus; *any Teleost, Frog*, Lizard, *Pigeon, Rabbit.*

The general characters of the chief classes of animals.

The elements of the comparative anatomy of Vertebrata.

The elements of the comparative anatomy of Angiosperms.

(2.) **Physics** (One paper):—

HEAT.—Change of volume, measures of temperature; change of state, latent heat, hygrometry, specific heat, calorimetry; sources of heat, the conservation and dissipation of energy; convection, conduction; reflection, refraction, transmission and absorption of radiant energy.

* Places of Examination—Auckland, Christchurch, Dunedin. Candidates must send in notices to the Registrar, accompanied by the fee, not later than September 1st.

SOUND.—The production and propagation of sound; the vibration of sounding bodies; the elements of the physical theory of music.

LIGHT.—Nature, production and propagation of light; the laws of reflection and refraction at plane and spherical surfaces; prismatic dispersion and spectra; interference, double refraction, and plane polarisation; the principal optical instruments, and vision.

STATIC ELECTRICITY.—Fundamental phenomena of attraction and repulsion, conduction, induction, and distribution; electrostatic units; electrical machines; condensers.

MAGNETISM.—Fundamental phenomena of magnetic attraction, repulsion, and induction; magnetic units; terrestrial magnetism.

CURRENT ELECTRICITY.—Voltaic batteries; galvanometers; electrolysis; Ohm's law; thermal effects of the electric currents; electro-magnetic units; the interaction of magnets and currents, and the mutual action of currents upon one another; thermo-electricity; induction of currents; magneto-electric and dynamo-electric machines.

NOTE.—The scope of the subject Physics is the same as for the degree of Bachelor of Arts and Bachelor of Science, but the standard is lower.

(3.) **Inorganic Chemistry** (One paper):—

The chemical relations of cohesion, heat, light, and electricity; the general principles of chemical combination, notation, and nomenclature; the description and classification of the more important elements and compounds, qualitative analysis, and calculations of chemical problems.

VII. The subjects of the Intermediate Examination may be taken together or separately, at the option of the candidate, but the whole Intermediate Examination must be passed before the candidate can be admitted to the First Professional Examination.

VIII. Candidates must forward to the Registrar, at least fifteen days before the date of the examination, certificates of their having attended lectures and of having gone through a course of practical work at a University College in the subjects in which they propose to be examined.

NOTE.—The classes required for the Intermediate Examination may be taken at any of the affiliated colleges.

IX. Medical Students who previous to registration have passed the examinations in Biology, or Physics, or Chemistry, prescribed by the University for the degree of Bachelor of Arts and Bachelor of Science, shall be exempt from passing in the same subjects in the Intermediate Examination, and their attendance at classes in these subjects shall be counted as part of their medical course.

X. Any candidate who may have satisfied the Examiners in any one subject of this examination shall be entitled on payment of the prescribed fee to receive from the Registrar a certificate to that effect.

XI. The fee for the Intermediate Examination shall be two guineas; but if taken in sections in the manner herein provided, one guinea for each section subject in both cases to the provisions of the Statute "Conduct of University Examinations."

PROFESSIONAL EXAMINATIONS.*

XII. The First Professional Examination shall be held not sooner than November in the candidate's third year, and shall include:—

1. ORGANIC CHEMISTRY.
2. PRACTICAL CHEMISTRY (Qualitative Analysis of

* Place of Examination—Dunedin.

inorganic substances: the preparation and recognition of the more important organic products).

3. ANATOMY.

No candidate shall be admitted to this examination within six months of the time of his completing the Intermediate Examination.

Candidates must forward to the Registrar, at least fifteen days before the date of examination, the following certificates:—

1. Of having attended not less than one hundred lectures on Chemistry;
2. Of having received six months' instruction in practical Chemistry;
3. Of having attended a course of not less than one hundred lectures on Human Anatomy;
4. Of having dissected the human body during two periods of six months each.

Candidates in Anatomy may be called on to perform actual dissections.

XIII. The fee for the First Professional Examination in November shall be three guineas; the fee for the Special First Professional Examination in April shall be five guineas: subject in both cases to the provisions of the Statute "Conduct of University Examinations."

XIV. The Second Professional Examination shall be held not sooner than November in the candidate's fourth year, and shall include—

1. PHYSIOLOGY.
2. PATHOLOGY (including MORBID ANATOMY).
3. MATERIA MEDICA.

No candidate shall be admitted to this Examination within six months of the time of his passing the first Professional Examination.

Candidates must forward to the Registrar, at least fifteen days before the date of examination, the following certificates:—

1. Of having attended a course of not less than sixty lectures and gone through a course of practical work in Physiology;
2. Of having attended a course of not less than sixty lectures and gone through a course of practical work in Pathology;
3. Of having attended a course of not less than sixty lectures on Materia Medica;
4. Of having practised the dispensing of medicine for three months at a public dispensary, or under the superintendence of a member of the Pharmaceutical Society of New Zealand;
5. Of having attended the *post mortem* examinations of a hospital containing not less than a hundred beds for two periods of six months each.

XV. The fee for the Second Professional Examination in November shall be three guineas; the fee for the Special Second Professional Examination in April shall be five guineas; subject in both cases to the provisions of the Statute "Conduct of University Examinations."

XVI. The Third Professional Examination shall be held not sooner than November in the candidate's fifth year, and shall include—

1. SURGERY.
2. CLINICAL SURGERY.
3. MEDICINE (including THERAPEUTICS and INSANITY).
4. CLINICAL MEDICINE.

5. SURGICAL and MEDICAL ANATOMY.
6. MIDWIFERY and DISEASES OF WOMEN.
7. MEDICAL JURISPRUDENCE.
8. PUBLIC HEALTH.

No candidate shall be admitted to this examination within six months of the time of his passing the Second Professional Examination.

Candidates must forward to the Registrar, at least fifteen days before the date of examination, the following certificates:—

1. Of having been registered a medical student at least fifty-four months previously, except as provided in Section IV. of the Statute "The Registration of Medical Students;"
2. Of being twenty-one years of age before the date of graduation;
3. Of having attended a course of not less than one hundred lectures on Surgery;
4. Of having attended a course of not less than one hundred lectures on Medicine;
5. Of having attended a course of not less than one hundred lectures on Medical Jurisprudence and Public health;
6. Of having attended a course of not less than sixty lectures on Midwifery and Diseases of Women;
7. Of having received a three years' course of regular clinical instruction in Medical and Surgical practice in a hospital recognised by the University, such hospital to contain not less than one hundred beds, and having a distinct staff of physicians and surgeons. This certificate must state that the candidate has acted as clerk for six months in the medical wards, and as dresser for six months in the surgical wards. Six months of this hospital practice may be taken at a lunatic asylum containing not less than one hundred beds;

8. Of having attended six midwifery cases;

9. Of dispensary practice for six months, either in the out-patient department of a hospital, or at a public dispensary, or with a qualified practitioner;

10. Of having had instruction and practice in vaccination;

11. Of having had clinical instruction in insanity at an asylum containing not less than two hundred beds.

Candidates in Surgery will be examined practically as to surgical applications and surgical anatomy, and may be required to operate on the dead body.

XVII. The fee for the Third Professional Examination shall be five guineas, subject to the provisions of the Statute "Conduct of University Examinations."

XVIII. No student shall be admitted to the Third Professional Examination until he has kept the prescribed terms at a Medical School recognised by the Senate.

XIX. Certificates of instruction and practical work in Chemistry, Biology, and Physics shall be accepted from any of the following Institutions—namely, the University of Otago, Canterbury College, Auckland University College, and the Institutions defined in Section I. of the Statute "Admission *ad eundem*."

Certificates in all subjects of medical instruction shall be accepted from Medical Schools in New Zealand, from the Institutions defined in Section I. of the Statute "Admission *ad eundem*" which have established Medical Schools, and from the Medical Licensing Bodies which are recognised by the General Medical Council of Great Britain.

XX. Any candidate who produces satisfactory evidence that he has passed an examination in Chemistry, or in Biology, or in Physics, required for a degree in Medicine at a University in the United Kingdom or in the Colonies, or for the Fellowship of the Royal College of Surgeons of England, shall, subject to the

approval of the Chancellor, be exempt from examination in any of these subjects in which he has so passed.

XXI. A Bachelor of Medicine, by examination, of the New Zealand University, is entitled to the degree of Bachelor of Surgery, on payment of a fee of five guineas.

THE DEGREE OF DOCTOR OF MEDICINE.

I. A candidate for the degree of Doctor of Medicine must be a graduate of a University in Arts or in Science, and not less than twenty-four years of age. He must have obtained the degree of Bachelor of Medicine at least two years previously, and must have been engaged during the interval in the practice or study of his profession.

But that part of this Statute which requires a degree in Arts or Science, as a condition precedent to the obtaining of the degree of Doctor of Medicine, shall not apply to any medical student registered as such in New Zealand before 1887, if he pass the examination for that degree at the earliest date permitted to him by the Statutes, and without having his course arrested by failure at any examination held between the year 1886 and the time of his examination for the degree.

II. Candidates must send in for approval a thesis on some subject belonging to the medical curriculum.

III. Candidates shall also be examined, both in writing and orally, on any one of the following groups of subjects they may choose:—

1. Anatomy and Physiology.
2. Surgery and Anatomy.
3. Medicine and Pathology.
4. Public Health and Medical Jurisprudence.

IV. The thesis, and notification of the subjects which the candidate chooses for examination, must be forwarded to the Registrar three months before the examination, which will be held in November of each year.*

V. A candidate for the degree of Doctor of Medicine who has been admitted *ad eundem* to the degree of Bachelor of Medicine in the New Zealand University, and who is a Bachelor of Arts or Bachelor of Science of the New Zealand University, or of a University recognised by the New Zealand University, and who has been in the practice or study of his profession for two years in New Zealand after taking the *ad eundem* degree of Bachelor of Medicine, and who has also written the thesis and passed the examination required by this Statute, may be admitted to the degree of Doctor of Medicine.

VI. The fee for the examination for the degree of Doctor of Medicine shall be five guineas, subject to the provisions of the Statute "Conduct of University Examinations."

* Place of Examination—Dunedin

COURSE IN LAW.

THE DEGREE OF BACHELOR OF LAWS.

NOTE.—Persons who passed the Barristers' General Knowledge Examination under the Judges prior to 1890 may be admitted as Undergraduates of the University, without further examination, on payment of the Fee of Two Guineas.

I. Candidates for the degree of Bachelor of Laws shall pass the Matriculation Examination, shall keep terms for two years in accordance with the Statute "Terms and Lectures," and, after keeping such terms, shall be required to pass three University Examinations, in November, at intervals of not less than one year from each other.* The first examination must be passed before the second, and the second before the third.

II. The subject of the first examination for the degree of Bachelor of Laws shall be:—

1. LATIN LANGUAGE AND LITERATURE.
2. (*a.*) ENGLISH LANGUAGE AND LITERATURE, OR
   (*b.*) MENTAL SCIENCE.
3. JURISPRUDENCE AND CONSTITUTIONAL HISTORY.

The first examination shall be the same as for the degree of Bachelor of Arts.

III. The second examination shall be in the following subjects:—

1. ROMAN LAW.—The Institutes of Justinian.
2. INTERNATIONAL LAW AND CONFLICT OF LAWS.

One paper will be set in each subject.

* Candidates for the LL.B. Examinations must send in their notices to the Registrar, with the examination fee, not later than September 1st, or with a treble fee if sent within one week after. Places of Examination—Auckland, Gisborne, Wellington, Nelson, Greymouth, Christchurch, Dunedin, Invercargill. The Examinations are held in November.

IV. The third examination shall comprise the following branches of English Law as in New Zealand:—

1. CONTRACTS AND TORTS.
2. REAL AND PERSONAL PROPERTY.
3. EVIDENCE.
4. CRIMINAL LAW.
5. EQUITY.
6. STATUTE LAW IN NEW ZEALAND.
7. PRACTICE AND PROCEDURE OF THE COURTS OF NEW ZEALAND.

One paper will be set in each subject.

The examination in Statute Law will consist of the principal enactments dealing with such of the subjects as are not dealt with under special heads. Thus:—Under the special heads of Real and Personal Property will be included such enactments as The Property Law Consolidation Act, The Land Transfer Act, The Chattels Transfer Act, The Administration Act. Under the special head of Practice and Procedure will be included the rules of various Courts, and the enactments relating to juries and enforcement of judgments. Under the special head of Criminal Law will be included the principal enactments relating to crimes. Under the special head of Evidence will be included the enactments relating to evidence. And similarly with the other special heads.

The subject Statute Law will consist of the principal enactments relating to the following subject matters:—

The Constitutions of the various Courts; Mercantile Law (including Arbitration, Bankruptcy, Bills of Exchange, Companies, Copyright, Contractors' Lien, Partnerships, Patents, Truck); Social Legislation (including Aliens, Destitute Persons, Factories, Gambling, Infants, Life Assurance); Political Legislation (including Counties, Electoral, Municipal Corporations, Land, Mining).

V. A candidate may take up Contracts and Torts, Statute Law, and Practice and Procedure, or any one or two of these subjects, at the second examination instead of at the third examination. In any such case the candidate must include in the third examination all the subjects in which he has not already passed.

VI. A graduate of the New Zealand University in Arts or Science, either after examination or admitted *ad eundem*, presenting himself for the first examination for the degree of Bachelor of Laws, shall be exempt from examination in any subject or subjects of that examination in which he has already passed in his Arts or Science course, and may also, at his option, take the second and third examinations for the degree of Bachelor of Laws together instead of separately, and take at the same time any subject or subjects of the first examination for that degree in which he has not already passed: Provided that any graduate who at the time of the passing of this Statute is exempt from examination in English or Mental Science, as part of the first examination for the degree of Bachelor of Laws, shall not be required to pass in either of these subjects.

VII. The fee for the first examination for the degree of Bachelor of Laws shall be one guinea, and for each of the second and third examinations, three guineas,* subject in all cases to the provisions of the Statute "Conduct of University Examinations."

PROFESSIONAL EXAMINATIONS IN LAW.

I. Candidates for the legal profession may be be examined by the University.

II. No fees shall be required for such examinations other than those prescribed by "The Law Practitioners Act, 1882."

III. Certificates shall be issued to candidates specifying the examination which they have passed.

NOTE.—Candidates are advised to study carefully, in connection with these Regulations, Sections II., III., IV., and V. of the Statute "The Degree of Bachelor of Laws."

* This will not apply to candidates who were graduates or undergraduates in 1886, under certain conditions: See Statute "University Fees," Section V. For them the fee will be one guinea, subject to the same conditions.

STATUTES OF N.Z. UNIVERSITY.—LAW EXAMINATIONS.

THE FOLLOWING ARE THE REGULATIONS RESPECTING PROFESSIONAL EXAMINATIONS which have been made by the Judges of the Supreme Court (published in the *New Zealand Gazette*, May 11th, 1893):—

1. Any candidate for admission as solicitor who shall have passed the Matriculation Examination in the New Zealand University, taking Latin as a subject, shall be deemed to have passed the examination in General Knowledge required to be passed by the candidates for admission as solicitors; and any candidate for admission as barrister who shall have passed with credit the Junior Scholarship Examination in the said University, or the First Examination for the degree of Bachelor of Laws in the said University, taking in each case Latin as a subject, shall be deemed to have passed the examination in General Knowledge required to be passed by candidates for admission as barristers.

2. Every candidate for admission as a barrister or solicitor of the Supreme Court, not previously admitted elsewhere, shall give notice to the Registrar of the University of New Zealand, at the dates specified each year in the *University Calendar*, of his desire to be examined, and shall state the nature of the examination that he proposes to submit to; and shall at the same time pay to the Registrar of the University the proper fee in respect of such examination: and every such candidate shall at the same time send a similar notice (without fee) to the Registrar of the Supreme Court where he intends to apply for admission.

3. Candidates may present themselves for examination both in Law and General Knowledge, or in Law only, or in General Knowledge only, or they may split their examination for Law as prescribed for candidates for the degree of Bachelor of Laws, but if a candidate so split, he shall pay for each section of the examination one-half of the fee for the whole examination.

4. The examinations will be conducted by the University of New Zealand. The Examinations in Law and the Examinations in General Knowledge shall be held annually, at the times

fixed by the Chancellor of the University, at Auckland, Wellington, Christchurch, and Dunedin, and at such other places as the number of candidates may warrant.* All candidates for Legal Examinations must conform to the rules and regulations of the University for the conduct of University Examinations, as stated in the *Calendar*, so far as they are consistent with these regulations.

5. Candidates for admission as barristers who have been previously admitted as barristers in any superior or Supreme Court in any part of Her Majesty's dominions shall give two months' notice of their intention to apply for admission, and shall, as soon as conveniently may be thereafter, be examined only as to their knowledge of the law of New Zealand so far as it differs from the law of England. The examination of such candidates shall be conducted by the Examiners appointed by the Chancellor, at such times in the year and at such places as may be fixed by the Chancellor of the University with the approval of the Chief Justice.

6. Candidates for admission as barristers who shall have taken a degree in Arts or Science from some University or other body in any part of Her Majesty's dominions which has or hereafter may have power by law to grant such a degree shall be examined only in General Law, and those who shall have taken a degree in Law shall be examined only in the law of New Zealand so far as differs from the law of England.

NOTE.—The fee payable for this Examination is Two Guineas.

7. All other candidates for admission as barristers shall be examined in Law and General Knowledge.

8. Solicitors on the roll who shall apply to be admitted as barristers shall pass the examination in General Knowledge provided by Rule 9, and shall pass the examination in Jurisprudence, Constitutional History, Roman Law, International Law

*The November Examinations will be held at Auckland, Gisborne, Wellington, Nelson, Greymouth, Christchurch, Dunedin, Invercargill; the December Examinations at Auckland, Gisborne, Napier, Wanganui, Wellington, Nelson, Greymouth, Christchurch, Timaru, Oamaru, Dunedin, Invercargill.

and Conflict of Laws, prescribed for the Degree of Bachelor of Laws.

NOTE.—The fee payable under this section is Two Guineas.

9. The Examination in General Knowledge for candidates for admission as barristers, and for candidates for admission as solicitors who are by law required to pass the barristers' examination, shall be the Junior Scholarship Examinations required by the New Zealand University, and a candidate must pass with credit such examination, or he must pass the First Examination for the degree of Bachelor of Laws. In each of these examinations Latin shall be a compulsory subject.

NOTE.—The fee payable under this section is Two Guineas.

10. The examination in Law for candidates for admission as barristers shall be the law subjects required for the degree of Bachelor of Laws in the New Zealand University, namely:—

(1.) Jurisprudence and constitutional history;

(2.) Roman law;

(3.) International law and conflict of laws.

English law in New Zealand:—

(4.) Contracts and torts;

(5.) Real and personal property;

(6.) Evidence;

(7.) Criminal law;

(8.) Equity;

(9.) Statute law in New Zealand;

(10.) Practice and Procedure of the Courts in New Zealand.

NOTE.—The fee payable under this section is Five Guineas.

11. Persons who have passed the General Knowledge Examination prescribed for Barristers under the Regulations of the 28th December, 1882, shall not, in passing the Examination

in Law prescribed for candidates for admission as Barristers under these Regulations, be required to pass in Constitutional History.

12. Candidates for admission as solicitors who have been admitted as solicitors in any superior or Supreme Court of any part of Her Majesty's dominions shall be examined in Law, including the law of New Zealand in so far as it differs from the law of England.

For this class of candidates there shall be two papers: one on Law generally, the other on the law in New Zealand in so far as it differs from the law of England. The examination shall be conducted at the times and by the Examiners appointed by the Chancellor of the University.

NOTE.—The fee payable under this section is Two Guineas.

13. Candidates for admission as solicitors who have taken a degree in arts or Laws or Science from some University or other body in any part of Her Majesty's dominions which has or hereafter may have power by law to grant such degrees shall be examined in Law only.

14. The examination in General Knowledge for candidates for admission as solicitors shall be the Matriculation Examination of the New Zealand University, Latin being a compulsory subject.

NOTE.—The fee payable under this section is Two Guineas.

15. The examination in Law for candidates for admission as solicitors shall be the law subjects prescribed for the degree of Bachelor of Laws of the New Zealand University, omitting Jurisprudence, Constitutional History, Roman Law, International Law and Conflict of laws.*

NOTE.—The fee payable under this section is Two Guineas.

16. Every candidate for admission either as a barrister or solicitor who shall produce a certificate emanating from the

* A candidate under this section who desires to divide the examination into two sections as provided in Regulation 3, may make the first section consist of any *one or two* of the following:—Contracts and Torts, Statute Law, Practice and Procedure.

proper authority that he has passed any examination in General Knowledge required to be passed by candidates for admission as solicitors in England or Ireland, or as law agents in Scotland, or that he has passed an examination either at the University of New Zealand, or any University in Great Britain, Ireland, or the Australian Colonies, or at any college or institution affiliated to or connected with any such University, or who has passed the New Zealand Senior Civil Service Examination, and who shall prove to the satisfaction of a Judge of the Supreme Court that such examination comprised any subject or subjects corresponding with any of those hereby prescribed for the General Knowledge Examination, shall be excused from being examined in such subject or subjects.

17. The age of all candidates for admission must appear on affidavit.

18. A barrister or advocate previously admitted elsewhere must produce to the Judge of the district, to whom he applies for admission, his admission, or some certificate or other document, duly verified, proving his admission, and make an affidavit that he is the person named therein, and was admitted as therein stated.

19. Every candidate for admission as a barrister or solicitor who claims to be entitled, as a graduate of some University, to be admitted after an examination in Law only, shall produce his diploma, or some duly-authenticated certificate or other documentary evidence of his having taken a degree, with an affidavit verifying the same, and proving his identity with the person mentioned in such document.

20. Every candidate for admission as a solicitor who claims to be entitled to be admitted on the ground of some previous admission elsewhere must produce documentary evidence of such admission purporting to emanate from proper authority, and an affidavit verifying the same, and proving his identity with the person named therein.

21. Every candidate, before being admitted, shall produce

evidence of his good character, to the satisfaction of the Judge to whom he applies for admission.

22. No fee paid for any examination or section thereof which the candidate may fail to pass shall be available for any subsequent examination or section thereof, excepting as provided under Section II. of the University Statute of Fees.

23. Candidates for admission as barristers or solicitors who may have taken the Degree of Bachelor of Laws in the University of New Zealand since June 1st, 1890, shall not be required to pass any further examination.

NOTE.

As the examinations in Law subjects are held in November, and the Matriculation and Junior Scholarship Examinations are held in December, candidates for admission as Solictors, and candidates for admission as Barristers who choose for their General Knowledge the Junior Scholarship subjects, will be allowed to take the Law subjects first—that is, may consider the November and December examinations as practically forming one.

But in this case the passing of the November portion will be considered as contingent on the passing of the December portion.

A candidate for admission as Barrister who chooses for General Knowledge the first LL.B. Pass Examination, cannot take Roman and International Law until after he has passed the General Knowledge Examination.

The foregoing note will not apply to those candidates who have passed part of their examinations previous to 1893.

THE DEGREE OF DOCTOR OF LAWS.

I. The subjects of examination for the Degree of Doctor of Laws shall be:—*

1. JURISPRUDENCE.

2. ROMAN LAW.

* The Examination is held in November. Places of Examination: Auckland, Wellington, Nelson, Christchurch, Dunedin.

3. INTERNATIONAL LAW.

(These subjects to be more fully treated than for the degree of Bachelor of Laws).

4. PRINCIPLES OF LEGISLATION.

One paper will be set in each subject.

II. No candidate shall be admitted to the examination for the degree of Doctor of Laws until the November Examination of the second year following that in which the candidate shall have passed for the degree of Bachelor of Laws.

III. Every candidate intending to present himself for examination shall signify his intention to the Chancellor at least six months previously.

IV. The fee for the examination for the degree of Doctor of Laws shall be five guineas,* subject to the provisions of the Statute "Conduct of University Examinations."

* This will not apply to candidates who were graduates in 1886, under certain conditions—see Statute "University Fees," Section V. For them the fee will be one guinea.

COURSE IN MUSIC.

THE DEGREE OF BACHELOR OF MUSIC.

I. A candidate for the degree of Bachelor of Music shall be matriculated, and after matriculation shall be required to pass the following examinations*:—(1.) The Intermediate Examination; (2.) the First Examination in Music; (3.) the Final Examination in Music. He shall also, after passing the First Examination in Music, write a musical exercise to the satisfaction of the Examiners.

II. The subjects of the Intermediate Examination shall be:—

1. PHYSICS, as defined for the Intermediate Examination of students in Medicine.
2. One of the following languages—LATIN, GREEK, FRENCH, GERMAN. The examination papers will be the same as those used for the Junior Scholarship Examination, but the examiners will be instructed to treat this examinanion as not competitive.
3. Elementary History of Music.

III. Candidates for the degree of Bachelor of Music who shall have passed in (*a*) Physics, or (*b*) Latin, Greek, French, or German, in either the Examination for the degree of Bachelor of Arts or the Examination for the degree of Bachelor of Science, shall not be required to pass again in those subjects in the Intermediate Examination for the degree of Bachelor of Music.

IV. The subjects of the First Examination in Music shall be:—

1. ACOUSTICS.
2. COUNTERPOINT, in not more than three parts.

* Candidates' notices for the Musical Examinations, with the examination fee, must be sent in to the Registrar not later than April 8th, or with a treble fee up to April 15th.
The Examinations in Music are held in November. Places of Examination—Auckland, Wellington, Nelson, Greymouth, Christchurch, Dunedin, Invercargill.

3. HARMONY, in not more than four parts.

For the purpose of this examination, ACOUSTICS shall be understood to include the following subjects:—

Sensation and external cause of sound. Mode of its transmission. Nature of wave-motion in general. Application of the wave theory to sound. Elements of musical sound. Loudness and extent of vibration. Pitch and rapidity of vibration. Measure of absolute and of relative pitch. Resonance. Analysis of compound sounds. Helmholtz's theory of musical quality. Motion of sounding strings. The pianoforte, and other stringed instruments. Motion of sounding air-columns. Flute and reed stops of the organ. Orchestral wind instruments. The human voice. Interference. Beats. Helmholtz's theory of consonance and dissonance. Combination tones. Consonant chords. Construction of the musical scale. Exact and tempered intonation. Equal temperament. Systems of pitch notation.

No knowledge of Mathematics beyond Arithmetic shall be required to satisfy the Examiners in this subject.

V. Any candidate may be admitted to the First Examination in music who has previously passed the Matriculation and the Intermediate Examinations, provided that at the time of announcing his intention of presenting himself for the First Examination in Music he produces a certificate, signed by two or more trustworthy persons, that he has been studying or practising music for two years.

VI. The exercise must be a composition on a sacred or secular subject, written for the occasion, and such as would occupy about twenty minutes in performance, and must fulfil the following conditions:—1. That it comprise some portion for a solo voice, and some portion for a chorus of five real vocal parts. 2. That it comprise some specimens of canon and fugue.

3. That the whole have an accompaniment for bowed instruments only, with or without organ.

The exercise may be sent in by the candidate at any time subsequently to his having passed the First Examination in Music. The exercise must be sent to the Registrar of the University, and must be accompanied by a written declaration, signed by the candidate, that the work is his own unaided composition.

VII. The subjects of the Final Examination in Music shall be:—

1. COUNTERPOINT, in not more than five parts.
2. HARMONY.
3. CANON, in two parts.
4. FUGUE in two parts, especially as to the relation of subject and answer.
5. FORM IN COMPOSITION, as exemplified in the sonata.
6. THE PITCH AND QUALITY of the stops of the organ.
7. SUCH KNOWLEDGE OF THE QUALITY, PITCH, AND COMPASS OF ORCHESTRAL INSTRUMENTS as is necessary for reading from score.
8. THE ANALYSIS OF SOME CLASSICAL COMPOSITION, with regard to Harmony and Form, the name of which will be announced by the Examiners at least six weeks before the date of examination.

VIII. Any candidate may be admitted to the Final Examination in Music who has previously passed the First Examination, and who has satisfied the Examiners with the exercise prescribed in Section VI. of this Statute.

IX. Candidates who intend to present themselves for examination, either at the First or at the Final Examination, must give notice in writing to the Registrar not later than the 8th day of April in the year in which they intend to present themselves for examination

X. Candidates who intend to present themselves for examination at the First Examination in Music shall pay a fee of five guineas, and candidates who intend to present themselves for examination at the Final Examination shall pay a fee of ten guineas, at the time of giving notice to the Registrar of their intention to present themselves for examination, subject in both cases to the provisions of the Statute "Conduct of University Examinations."

THE DEGREE OF DOCTOR OF MUSIC.

I. No person shall be admitted to be a candidate for the degree of Doctor of Music unless he shall have been admitted to the degree of Bachelor of Music at least five years previously.

II. A candidate for the degree of Doctor of Music shall be required—

1. To WRITE AN EXERCISE.
2. To PASS AN EXAMINATION IN THE HIGHEST BRANCHES OF MUSICAL SCIENCE.

III. The exercise shall be a composition on a sacred or secular subject, written for the occasion, such as would occupy about forty minutes in performance, and fulfilling the following conditions:—

1. That it comprise some portion for one or more solo voices, and some portion for a chorus of eight real vocal parts.
2. That it comprise some specimens of canon and of fugue.
3. That it comprise an instrumental overture, or an interlude, in the form of the first movement of a symphony or sonata.
4. That the whole (except some single piece be for voices alone) have an accompaniment for a full band.

IV. The exercise may be sent in to the Registrar at any time after the expiration of five years from the date at which the candidate obtained the Degree of Bachelor of Music. The exercise must be accompained by a written declaration, signed by the candidate, that the work is his own unaided composition.

V. The subjects of the Examination for the degree of Doctor of Music shall be:—*

1. COUNTERPOINT, in not more than eight parts.
2. THE HIGHEST BRANCHES OF HARMONY.
3. CANON of various kinds, in not more than four parts.
4. FUGUE and DOUBLE FUGUE, in not more than four parts.
5. FORM IN COMPOSITION.
6. INSTRUMENTATION and SCORING of chamber and orchestral music.
7. THE ANALYSIS OF SOME CLASSICAL COMPOSITION, the name of which will be announced by the Examiners at least six weeks before the date of the examination.
8. THE ART OF MUSIC HISTORICALLY CONSIDERED.

VI. Candidates who intend to present themselves for examination under this Statute must give notice in writing to the Registrar not later than the 8th day of April in the year in which they intend to present themselves for examination, and shall also, at the time of giving such notice, pay a fee of fifteen guineas, subject to the provisions of the Statute "Conduct of University Examinations."

* The Examination is held in November.

FEES.

UNIVERSITY FEES.

I. Every candidate for any examination shall, at the time of giving notice of his intention to present himself, pay the prescribed examination fee.

NOTE.—But the notice will be accepted, *within one week only*, after the date prescribed in the foregoing Statutes in each case, *if accompanied by a treble fee.*

In the case of candidates for the degree of Master of Arts, and for Honours in Arts and in Science, the time for the payment of fees shall be the time prescribed in the Statutes "The Degree of Master of Arts," and "Honours in Arts," and "Honours in Science."

II. No examination fee shall on any account be returned; nor shall any such fee avail for any subsequent examination, except that:—

(1.) A candidate who has paid a fee for a University degree examination, but is debarred from presenting himself for examination by reason of his failure at the annual examination of his college, shall not be required to pay a second fee for the same degree examination.

(2.) A candidate who shows by the evidence of a medical certificate that his failure to present himself for examination was due to ill-health may present himself for the next examination without paying another fee.

III. No degree shall be conferred on any student unless the fee prescribed for that degree shall have been paid.

IV. The fees payable to the University shall be as follows:—

1. For University Examinations.	£	s.	d.
For the Matriculation and Preliminary Medical Examination, each	2	2	0
For the Junior Scholarship Examination	1	1	0
For each of the four examinations in Mechanical and Civil Engineering	3	3	0
For each of the two examinations in Mining and Metallurgical Engineering	6	6	0
For each separate subject in Engineering, when taken by a Bachelor of Science (the total fees not to exceed £12 12s)	1	1	0
For the Intermediate Medical Examination ..	2	2	0
But if this examination be taken in two sections, for each section	1	1	0
For each of the First and Second Professional Examinations for the degree of Bachelor of Medicine, and for each of the Second and Third Examinations for the degree of Bachelor of Laws	3	3	0
For each of the Special First and Second Professional Examinations for the degree of Bachelor of Medicine	5	5	0
For the Third Professional Examination for the degree of Bachelor of Medicine	5	5	0
For the Examination for the degree of Doctor of Science, Doctor of Laws, or Doctor of Medicine	5	5	0
For the Intermediate Examination in Music ..	1	1	0
For the First Examination for the degree of Bachelor of Music	5	5	0
For the Final Examination for the degree of Bachelor of Music	10	10	0
For the Examination for the degree of Doctor of Music	15	15	0
For any other University Examination	1	1	0

For Professional Law Examinations.	£	s.	d.
For the Examination in Law of Barristers previously admitted elsewhere (under Rule 5)	2	2	0
For the Examination of Solicitors on the Roll for admission as Barristers (Rule 8)	2	2	0
For the Law Examination of Barristers (Rule 10)	5	5	0
For the Examination in Law of Solicitors previously admitted elsewhere (Rule 12)	2	2	0
For the Law Examination of Solicitors (Rule 15)	2	2	0
For the General Knowledge Examination ..	2	2	0

But if any of the Law Examinations is divided, then for each section half the fee.

3. For Degrees and for Diplomas of Honours.

For the degree of Bachelor of Arts or Bachelor of Science	3	3	0
For a Diploma of Honours in Arts or Science ..	1	1	0
For the degree of Master of Arts	6	6	0
For the degree of Bachelor of Science in Engineering	7	7	0
For the degree of Bachelor of Surgery	5	5	0
For the degree of Bachelor of Laws, Medicine, or Music	7	7	0
For the degree of Doctor of Science, Doctor of Laws, Doctor of Medicine, or Doctor of Music ..	15	15	0

4. For Matriculation, Registration, or Admission.

For Matriculation by virtue of the Junior Schclarship Examination	1	1	0
For Medical Registration	2	2	0
For Admission *ad eundem gradum* or *ad eundem statum*	2	2	0

5. For Certificates.

For Certificate of any Examination..	0	5	0

V. Nothwithstanding anything contained in this Statute, or any other Statute, the fee payable by any candidate for any examination mentioned in this section shall be according to the following lower scale, if the candidate was a graduate or undergraduate of the University in December, 1886, and if he present himself for the examination at the earliest date permitted by the Statutes, and without having his course arrested by failure at any examination held between the year 1886 and the time of due payment of the fee :—

	£	s.	d.
For the Second and Third Examinations for the degree of Bachelor of Laws, each	1	1	0
For the Examination for the degree of Doctor of Laws or Doctor of Medicine	1	1	0

CERTIFICATES IN AGRICULTURE.

Certificates of proficiency in Agricultural Knowledge will be granted to all students who, at the Intermediate Examination of Medical Students in 1893, pass in Physics, Chemistry and Biology, and who also produce satisfactory evidence of having kept two years' terms at an Agricultural School or College approved by the Senate, and of having attended the courses of lectures and passed the annual examinations of the School or College, in the following subjects:—Agriculture, Chemistry, Physics, Natural Science, Veterinary Science, Land Surveying, Book-keeping, Mechanical Drawing.

COMMISSIONS IN THE BRITISH ARMY.

I. In accordance with the regulations issued by the War Office, and republished in the *New Zealand Gazette* of 21st April, 1892, the Senate is empowered to nominate each year one person to a Commission in the Cavalry or the Infantry of the Line. The Senate will be prepared, at each annual meeting, to consider applications from candidates for nomination.

II. Any Graduate in Arts or Science, or any Undergraduate who has passed the first section of the Examination for the Degree of Bachelor of Arts or Bachelor of Science. will, if he is in other respects qualified under the War Office Regulations, be eligible for nomination, provided that he also passes an examination in Geometrical Drawing.

III. Candidates, after nomination, must, in the month of September following, pass an examination in military subjects as follows:—

	Maximum Marks.
1. The elements of field fortification ..	600
2. Military topography	600
3. The elements of tactics	600
4. Military Law	600

The scope in these subjects will be that embraced by the synopsis of the Course of Instruction at the Royal Military College.* There will, however, be no practical out-of-door examination in any subject. The text-books will be those in use at the time at the Royal Military College, Sandhurst.

* This synopsis has been published by authority and is sold by—Eyre and Spottiswoode, East Harding Street, Fleet Street, London, E.C.; or John Menzies and Co., 12, Hanover Street, Edinburgh, and 90, West Nile Street, Glasgow; or Hodges, Figgis and Co., 104, Grafton Street, Dublin.

IV. A candidate for nomination must be between eighteen and twenty-two years of age on the 1st of January next before his examination in military subjects.

V. The candidate must, before the 1st day of May, put into the hands of the Registrar of the University the documents necessary to enable him to comply with the following War Office Regulation :—

The name of the candidate selected for nomination must be forwarded to the Military Secretary so as to reach him on the 1st July, and should be accompained by—

(*a.*) A certificate that the candidate is a British-born or naturalised British subject :—

(*b.*) An extract from the register of his birth, or, in default, a declaration made by one of his parents or guardians before a Magistrate giving his exact age (a certificate of baptism cannot be accepted unless the date of birth is shown therein);

(*c.*) A certificate of good moral character, signed by the tutors or heads of the schools or colleges at which he has received his education for the four years immediately preceding the date of application, or some other satisfactory proof of good moral character.

(*d.*) A certificate from the head of the college that the candidate has passed the required University Examination, including Geometrical Drawing.

MILITARY CADETSHIPS.

I. Graduates in Arts of the University of New Zealand are recognised by the War Office as entitled to compete on equal terms with those members of other Universities who, without being required to pass either the preliminary or the further examination, are allowed to compete amongst themselves for admission to the Royal Military College.

II. At each Annual Meeting the Senate will be prepared to consider applications from candidates for nomination to one Cadetship at the Royal Military College at Sandhurst. Any graduate or any undergraduate who has passed the first section of the Examination for the degree of Bachelor of Arts will be eligible, on condition of passing an examination in Geometrical Drawing, as required by the Regulations of the War Office respecting admissions to the Royal Military College, if he is in other respects qualified under those regulations.

III. The regulations prescribe that a Cadet must be between seventeen and twenty-two years of age on admission to the College; the date of admission being the 1st day of September. The successful candidate will be required to send certificates of age and of moral character for the preceding four years, to the Military Secretary, Horse Guards, so as to reach him by the 1st day of August.

IV. The course of study at the Royal Military College extends through one year. At the end of the first term the Cadet has to pass an examination in the work of the term; and failure at the examination involves the loss of a term. There is another examination at the end of the course, and those who pass a satisfactory examination become entitled to Commissions in the Army as Second Lieutenants, and may be gazetted to regiments in the order in which they pass.

V. The payment to be made on behalf of a Cadet varies from £20 for the son of an officer who has died in the service, and whose family is left in pecuniary distress, to £120 for the son of a private gentleman. A further payment of £25 for uniform, books, &c., and a deposit of £5 on account, for contingent expenses, are required. The pay of a Cadet is 3s. a day. For further information, intending candidates may refer to the Regulations published in the *New Zealand Gazette*, 29th September, 1881.

APPENDIX.

ANNUAL EXAMINATION,

OCTOBER, 1893.

LATIN TRANSLATION.

Examiner: PROFESSOR POND.

A. CICERO . DE SENECTUTE. HORACE ODES I. & II.

1. Translate with marginal notes where necessary :—

(a) Ego Q. Maximum, eum qui Tarentum recepit, senem adulescens ita dilexi, ut aequalem. Erat enim in illo viro comitate condita gravitas, nec senectus mores mutaverat. Quamquam eum colere coepi non admodum grandem natu, sed tamen iam aetate provectum. Anno enim post consul primum fuerat quam ego natus sum, cumque eo quartum consule adulescentulus miles ad Capuam profectus sum quintoque anno post ad Tarentum. Quaestor deinde quadriennio post factus sum, quem magistratum gessi consulibus Tuditano et Cethego, cum quidem ille admodum senex suasor legis Cinciae de donis et muneribus fuit. Hic et bella gerebat ut adulescens, cum plane grandis esset, et Hannibalem iuveniliter exsultantem patientia sua mollibat; de quo praeclare familiaris noster Ennius:

uuus homo nobis cunctando restituit rem;
noenum rumores ponebat ante salutem;
ergo plusque magisque viri nunc gloria claret.

Tarentum vero qua vigilantia, quo consilio recepit! Cum quidem me audiente Salinatori, qui amisso oppido

fugerat in arcem, glorianti atque ita dicenti, 'mea opera, Q. Fabi, Tarentum recepisti,' 'certe,' inquit ridens, 'nam nisi tu amisisses, numquam recepissem.' —Ch. IV. Sec. 10—11.

(b) Sic mihi persuasi, sic sentio, cum tanta celeritas animorum sit, tanta memoria praeteritorum futurorumque prudentia, tot artes tantae scientiae, tot inventa, non posse eam naturam, quae res eas contineat, esse mortalem; cumque semper agitetur animus nec principium motus habeat, quia se ipse moveat, ne finem quidem habiturum esse motus, quia numquam se ipse sit relicturus; et cum simplex animi natura esset neque haberet in se quicquam admixtum dispar sui atque dissimile, non posse eum dividi, quod si non posset, non posse interire; magnoque esse argumento homines scire pleraque ante quam nati sint, quod iam pueri, cum artis difficilis discant, ita celeriter res innumerabilis arripiant, ut eas non tum primum accipere videantur, sed reminisci et recordari.—Ch. XXI. § 78.

2. Translate, and explain carefully the syntax of—

(a) Volumus sane, nisi molestum est, Cato, tamquam longam aliquam viam confeceris, quam nobis quoque ingrediundum sit, istuc, quo pervenisti, videre quale sit.

(b) Cedo qui vestram rem publicam tantam amisistis tam cito?

(c) Itaque nemo adhuc convenire me voluit, cui fuerim occupatus.

(d) mea quidem sententia haud scio an nulla senectus beatior possit esse.

(e) O miserum senem, qui mortem contemnendam esse in tam longa ætate non viderit!

3. Explain the following expressions, giving, where possible, the derivations:—edepol, usu venire, malleolus, quincunx, emancipare, faxit, viator, succidia, viai.

4. Quote from the De Senectute instances of metaphors taken from the daily life of the Romans.

B.

1. Translate, with marginal notes, where necessary :—

(a) Tu ne quaesieris, scire nefas, quem mihi, quem tibi
Finem di dederint, Leuconoë, nec Babylonios
Tentaris numeros. Ut melius, quidquid erit, pati!

Seu plures hiemes seu tribuit Iuppiter ultimam,
Quae nunc oppositis debilitat pumicibus mare
Tyrrhenum, sapias, vina liques, et spatio brevi
Spem longam reseces. Dum loquimur, fugerit invida
Aetas : carpe diem quam minimum credula postero.

Book I. Ode 9.

(b) O diva, gratum quae regis Antium,
Praesens vel imo tollere de gradu
Mortale corpus vel superbos
Vertere funeribus triumphos,

Te pauper ambit sollicita prece
Ruris colonus, te dominam aequoris,
Quicunque Bithyna lacessit
Carpathium pelagus carina.

Te Dacus asper, te profugi Scythae,
Urbesque gentesque et Latium ferox
Regumque matres barbarorum et
Purpurei metuunt tyranni,

Iniurioso ne pede proruas
Stantem columnam, neu populus frequens
Ad arma cessantes, ad arma
Concitet imperiumque frangat.

Te semper anteit saeva Necessitas,
Clavos trabales et cuneos manu
Gestans aëna, nec severus
Uncus abest liquidumque plumbum.

Book I. Ode 35.

(c) **Frustra cruento Marte carebimus**
Fractisque rauci fluctibus Hadriae,
Frustra per auctumnos nocentem
Corporibus metuemus Austrum:

Visendus ater flumine languido
Cocytos errans et Danai genus
Infame damnatusque longi
Sisyphus Aeolides laboris.

Linquenda tellus et domus et placens
Uxor, neque harum, quas colis, arborum
Te praeter invisas cupressos
Ulla brevem dominum sequetur.

Absumet heres Caecuba dignior
Servata centum clavibus et mero
Tinget pavimentum superbo,
Pontificum potiore coenis.

Book II. Ode 14.

2. **Translate with short notes on the meaning, construction, or reading:—**

(a) **nec regna vino sortiere talis.**

(b) **Tu nisi ventis**
Debes ludibrium cave.

(c) **eburna dic age cum lyra**
maturet, in comptum Lacænae
more comam religata nodum.

(d) **me truncus illapsus cerebro**
Sustulerat nisi Faunus ictum
Dextra levasset.

(e) **Fertur Prometheus addere principi**
Limo coactus particulam undique
Desectam, et insani leonis
Vim stomacho apposuisse nostro.

3. What allusions are made in these books to the wars of Augustus, accomplished or intended? How far do such references enable us to fix dates to the Odes containing them?

4. Explain:—intonsi Catonis auspiciis—Siculum mare Poeno purpureum sanguine—navis, quae tibi creditum debes Vergilium finibus Atticis — longa Tithonum minuit senectus—litus Matinum.

C. Translation from books not prescribed.

1. Nec gravatus senex plaustro in castra dicitur advectus vocatusque in consilium ita ferme locutus esse ut nihil sententiae suae mutaret, caussas tantum adiceret; priore se consilio, quod optimum duceret, cum potentissimo populo per ingens beneficium perpetuam firmare pacem amicitiamque: altero consilio in multas aetates, quibus amissis duobus exercitibus haud facile receptura vires Romana res esset, bellum differre: tertium nullum consilium esse. Cum filius aliique principes percunctando exsequerentur, quid, si media via consilii caperetur, ut et dimitterentur incolumes et leges iis iure belli victis imponerentur: "Ista quidem sententia" inquit "ea est quae neque amicos parat nec inimicos tollit: servate modo quos ignominia irritaveritis, ea est Romana gens, quae victa quiescere nesciat: vivet semper in pectoribus illorum quidquid istuc praesens necessitas inusserit, nec eos ante multiplices poenas expetitas a vobis quiescere sinet."

LIVY.

2. Iam vero, accessus faciles qua ripa ministrat,
scrutatur toto populatrix turba profundo,
heu male defensus penetrali flumine piscis!
hic medio procul amne trahens humentia lina
nodosis decepta plagis examina verrit;
ast hic, tranquillo qua labitur agmine flumen,
ducit corticeis fluitantia retia signis.
ille autem scopulis subiectas pronus in undas
inclinat lentae convexa cacumina virgae,
indutos escis iaciens letalibus hamos.

AUSONIUS.

ANNUAL EXAMINATION.

LATIN COMPOSITION AND GRAMMAR.

Examiner: PROFESSOR POND.

I. Translate into Latin Prose—

Immediately after the unhappy surprise of the bridges, the lieutenant-colonel sent away to his brother a post, who by some of the lower fords got over the water, and carried the sad news to London. A trumpet was sent to the bridges, and obtained the dead bodies of the soldiers who were slain at the surprise, and they were brought up to the town in carts and buried. There were about twenty of them, very good and stout men, though it availed them not in their last need, when a multitude had seized them unawares. All that day a body of the enemy faced the town, which, through terrors without and discouragements and discontents within, was in a very sad posture. The malignant faction against the governor improved even this occasion, and suggested to the town that the castle would be the cause of their ruin; that the governor and his soldiers would secure themselves there, and leave the town undefended; and because the lieutenant-colonel was very strict that none of the castle-soldiers should lie out of their quarters, lest that place might be surprised as well as the other, the townsmen renewed their railings against the castle, and their malice to all that were in it; but the lieutenant-colonel, regarding none of their unjust railings, by God's blessing upon his vigilance, kept the town and castle till his brother's return.

II. Questions on the grammar of the books prescribed—

1. Give instances of Horace's (1) use of Greek constructions, (2) of his Epexegetic Infinitives, (3) of his periphrases for the direct prohibition.

2. What constructions are found with the following words

and phrases:—forsitan—fortasse—dubito—opus esse—fungor—adsurgo—venit in mentem—persuadeo.

3. Parse fully the following words:—recoxerit, demetendis, poterit, ostendi, lare, tollite, mella, evincet.

III. General Questions on Latin Grammar—

1. What is the force of the particles de, ex, re, when compounded with verbs? Illustrate your answer. Give with examples the ordinary methods of forming diminutives in Latin. and discuss the use of diminutives.

2. Give the gender and genitive singular of:—jecur, hospes, supellex, crater, ensis. What are the principal parts of consto, consisto, audeo, haurio, haereo?

3. What remains of the Locative are still to be found in Latin? Instance, with examples, those uses of the ablative which were probably derived from the Locative.

X.

ANNUAL EXAMINATION.

GREEK TRANSLATION.

Examiner: Professor Pond.

A. Demosthenes. Philippics. Sophocles. Antigone.

1. Translate—

(a) ὑμεῖς δ' "ἔφην ἐγὼ ,, διδόντα μὲν καὶ ὑπισχνούμενον θεωρεῖτε Φίλιππον, ἐξηπατηκότα δ' ἤδη καὶ παρακεκρουμένον, ἀπεύχεσθ', εἰ σωφρονεῖτ', ἰδεῖν. ἔστι τοίνυν νὴ Δι'" "ἔφην ἐγὼ ,, παντοδαπὰ εὑρημένα ταῖς πόλεσιν πρὸς φυλακὴν καὶ σωτηρίαν, οἷον χαρακώματα καὶ τείχη καὶ τάφροι καὶ τἄλλ' ὅσα τοιαῦτα. καὶ τὰ μέν ἐστιν ἅπαντα χειροποίητα καὶ ἐπάνηρ προσδεῖται· ἓν δέ τι κοινὸν ἡ φύσις τῶν εὖ φρονούντων ἐν αὐτῇ κέκτηται φυλακτήριον, ὃ πᾶσι μέν ἐστ' ἀγαθὸν καὶ σωτήριον, μάλιστα δὲ τοῖς πλήθεσιν πρὸς τοὺς τυράννους. τί οὖν ἐστι τοῦτο; ἀπιστία. ταύτην φυλάττετε, ταύτῃ ἀντέχεσθε· ἂν ταύτην σῴζητ', οὐδὲν μὴ δεινὸν πάθητε. τί ζητεῖτ'; "ἔφην. ,,ἐλευθερίαν. εἶτ' οὐχ ὁρᾶτε Φίλιππον ἀλλοτριώτατα ταύτῃ καὶ ταῖς προσηγορίαις ἔχοντα; βασιλεὺς γὰρ καὶ τύραννος ἅπας ἐχθρὸν ἐλευθερίᾳ καὶ νόμοις ἐναντίον.

(b) εἶτ' οἴεσθ, αὐτόν, οἳ μὲν ἐποίησαν μὲν οὐδὲν ἂν κακόν, μὴ παθεῖν δ' ἐφυλάξαντ' ἂν ἴσως, τούτους μὲν ἐξαπατᾶν αἱρεῖσθαι μᾶλλον, ἢ προλέγοντα βιάζεσθαι, ὑμῖν δ' ἐκ προρρήσεως πολεμήσειν, καὶ ταῦθ' ἕως ἂν [ἐκόντες] ἐξαπατᾶσθε; οὐκ ἔστι ταῦτα· καὶ γὰρ ἂν ἀβελτερώτατος εἴη πάντων ἀνθρώπων, εἰ τῶν ἀδικουμένων ὑμῶν μηδὲν ἐγκαλούντων αὐτῷ, ἀλλ' ὑμῶν αὐτῶν τινὰς αἰτιωμένων, ἐκεῖνος ἐκλύσας τὴν πρὸς ἀλλήλους ἔριν ὑμῶν καὶ φιλονικίαν, ἐφ' αὑτὸν προείποι τρέπεσθαι, καὶ τῶν παρ' ἑαυτοῦ μισθοφορούντων τοὺς λόγους ἀφέλοιτο, οἷς ἀναβάλλουσιν ὑμᾶς, λεγοντες ὡς ἐκεῖνός γ' οὐ πολεμεῖ τῇ πόλει.

2. Translate and explain the historical allusions in the following passages:—

(a) ὥσπερ εἰς Εὔβοιαν καί πρότερον ποτέ φασιν εἰς Ἀλίαρτον καὶ τὰ τελευταῖα πρώην εἰς Πύλαν, ἴσως ἂν ὁρμήσαιτε.

(b) *καίτοι προστάται μὲν ὑμεῖς ἑβδομήκοντα ἔτη καὶ τρία τῶν Ἑλλήνων ἐγένεσθε, προστάται δὲ τριάκοντα ἐνὸς δέοντα Λακεδαιμόνιοι· ἴσχυσαν δέ τι καὶ Θηβαῖοι τουτουσὶ τοὺς τελευταίους χρόνους μετὰ τὴν ἐν Λεύκτροις μάχην.*

3. Translate, and write grammatical notes on :—

(a) *ἐπειδὰν ἅπαντα ἀκούσητε κρίνατε, μὴ πρότερον ὑπολαμβάνετε.*

(b) *οἳ ἐποίησαν μὲν ὐυδὲν ἂν κακὸν μὴ παθεῖν δὲ ἐφυλαξαντ' ἂν ἴσως.*

(c) *καὶ ὅπως μὴ ποιήσετε ὃ πολλάκις ὑμᾶς ἔβλαψεν.*

4. In what senses are the following words used? :—*εἰρωνείαν—ἐνέδειξεν—ἀντιδόσεις—εἰσφέρειν—στηλίτας ποιεῖν.*

5. Sketch the history of Greece between the delivery of the First and of the Second Philippic.

B.

1. Translate—

(a) ΦΥ. *εἰπεῖν τι δώσεις ; ἢ στραφεὶς οὕτως ἴω ;*
ΚΡ. *οὐκ οἶσθα καὶ νῦν ὡς ἀνιαρῶς λέγεις ;*
ΦΥ. *ἐν τοῖσιν ὠσὶν ἢ 'πὶ τῇ ψυχῇ δάκνει ;*
ΚΡ. *τί δὲ ῥυθμίζεις την ἐμὴν λύπην ὅπου ;*
ΦΥ. *ὁ δρῶν σ' ἀνιᾷ τὰς φρένας, τὰ δ' ὦτ' ἐγώ.*
ΚΡ. *οἴμ' ὡς ἄλημα δῆλον ἐκπεφυκὸς εἶ.*
ΦΥ. *οὔκουν τό γ' ἔργον τοῦτο ποιήσας ποτέ.*
ΚΡ. *καὶ ταῦτ' ἐπ' ἀργύρῳ γε τὴν ψυχὴν προδούς.*
ΦΥ. *φεῦ·*
ἢ δεινὸν ᾧ δοκεῖ γε καὶ ψευδῆ δυκεῖν.
ΚΡ. *κόμψευε νῦν τὴν δόξαν· εἰ δὲ ταῦτα μὴ*
φανεῖτέ μοι τοὺς ὁρῶντας, ἐξερεῖθ' ὅτι
τὰ δειλὰ κέρδη πημονὰς ἐργάζεται.

(b) *ἀλλ' εὖ γέ τοι κάτισθι μὴ πολλοὺς ἔτι*
τροχοὺς ἁμιλλητῆρας ἡλίου τελῶν,
ἐν οἷσι τῶν σῶν αὐτὸς ἐκ σπλάγχνων ἕνα

ANNUAL EXAMINATION.

νέκυν νεκρῶν ἀμοιβὸν ἀντιδοὺς ἔσει,
ἀνθ' ὧν ἔχεις μὲν τῶν ἄνω βαλὼν κάτω,
ψυχήν τ ἀτίμως ἐν τάφῳ κατῴκισας,
ἔχεις δὲ τῶν κάτωθεν ἐνθάδ' αὖ θεῶν
ἄμοιρον, ἀκτέριστον, ἀνόσιον νέκυν.
ὧν οὔτε σοὶ μέτεστιν οὔτε τοῖς ἄνω
θεοῖσιν, ἀλλ' ἐκ σοῦ βιάζονται τάδε.
τούτων σε λωβητῆρες ὑστεροφθόροι
λοχῶσιν Ἅιδου καὶ θεῶν Ἐρινύες,
ἐν τοῖσιν αὐτοῖς τοῖσδε λῃφθῆναι κακοῖς.
καὶ ταῦτ' ἄθρησον εἰ κατηργυρωμένος
λέγω. φανεῖ γὰρ, οὐ μακροῦ χρόνου τριβὴ,
ἀνδρῶν γυναικῶν σοῖς δόμοις κωκύματα.

2. Translate the following, commenting on questions of construction or reading :—

(a) *τί δ' ὦ ταλαῖφρον, εἰ τάδ' ἐν τούτοις, ἐγὼ*
λύουσ' ἂν ἦ 'φάπτουσα προσθείμην πλέον ;

(b) *εὖ γε στοχάζει κἀποφάργνυσαι κύκλῳ τὸ πρᾶγμα.*

(c) *ἐγὼ δ' ὅπως σὺ μὴ λέγεις ὀρθως τάδε*
οὐτ' ἂν δυναίμην μήτ' ἐπισταίμην λέγειν.

(d) *καὶ σ' οὔτ' ἀθανάτων φύξιμος οὐδεὶς.*

(e) *τἀλλ' ἐγὼ καπνοῦ σκιᾶς*
οὐκ ἂν πριαίμην ἀνδρὶ πρὸς τὴν ἡδονήν.

3. How do you account for the play being continued so long after the catastrophe ? Consider the character of Creon.

C. Translation from books not prescribed.

Οἱ δ' ἐκ τῆς πόλεως Ἀμπρακιῶται ἀφικνοῦνται ἐπ' Ἰδομένην. ἐστὸν δὲ δύο λόφω ἡ Ἰδομένη ὑψηλώ· τούτοιν τὸν μὲν μείζω νυκτὸς ἐπιγενομένης οἱ προαποσταλέντες ὑπὸ τοῦ Δημοσθένους ἀπὸ τοῦ στρατοπέδου ἔλαθόν τε καὶ ἔφθασαν προκαταλαβόντες, τὸν δ' ἐλάσσω ἔτυχον οἱ Ἀμπρακιῶται προαναβάντες καὶ

ηὐλίσαντο. ὁ δὲ Δημοσθένης δειπνήσας ἐχώρει καὶ τὸ ἄλλο στράτευμα ἀπὸ ἑσπέρας εὐθύς, αὐτὸς μὲν τὸ ἡμισυ ἔχων ἐπὶ τῆς ἐσβολῆς, τὸ δ' ἄλλο διὰ τῶν Ἀμφιλοχικῶν ὀρων. καὶ ἅμα ὄρθρῳ ἐπιπίπτει τοῖς Ἀμπρακιώταις ἔτι ἐν ταῖς εὐναῖς καὶ οὐ προησθημένοις τὰ γεγενημένα, ἀλλὰ πολὺ μᾶλλον νομίσασι τοὺς ἑαυτῶν εἶναι·

ΟΡ. τί δῆτα δρῶμεν μητέρ' ; ἢ φονεύσομεν ;
ΗΛ. μῶν σ' οἶκτος εἷλε, μητρὸς ὡς εἶδες δέμας ;
ΟΡ. φεῦ.
πῶς γὰρ κτάνω νιν ἥ μ' ἔθρεψε κἄτεκεν ;
ΗΛ. ὥσπερ πατέρα σὸν ἥδε κἀμὸν ὤλεσεν·
ΟΡ. ὦ Φοῖβε πολλήν γ' ἀμαθίαν ἐθέσπισεν,
ΗΛ. ὅπου δ' Ἀπόλλων σκαιὸς ἦ, τίνες σοφοί ;
ΟΡ. ὅστις μ' ἔχρησας μητέρ', ἣν οὐ χρῆν, κτανεῖν.
ΗΛ. βλάπτει δὲ δὴ τί πατρὶ τιμωρῶν σέθεν ;
ΟΡ. μητροκτόνος νῦν φεύξομαι τόθ' ἁγνὸς ὤν.
ΗΛ. καὶ μὴ γ' ἀμύνων πατρὶ δυσσεβὴς ἔσει.
ΟΡ. ἐγὼ δὲ μητρὶ τοῦ φόνου δώσω δίκας·
ΗΛ. τῷ δ' αὖ πατρῴαν διαμεθεὶς τιμωρίαν ;

EURIPIDES.

ANNUAL EXAMINATION.

GREEK GRAMMAR AND COMPOSITION.

Examiner: PROFESSOR POND.

I.—Translate into Greek prose:—

Calling his men together, he told them that "a crisis had now arrived in their affairs, which it demanded all their courage to meet. No man should think of going forward in the expedition who could not do so with his whole heart, or who had the least misgiving as to its success. If any repented of his share in it, it was not too late to turn back. San Miguel was but poorly garrisoned, and he should be glad to see it in greater strength. Those who chose might return to this place, and they should be entitled to the same proportion of lands and Indian vassals as the present residents. With the rest, were they few or many, who chose to take their chance with him, he should pursue the adventure to the end." Notwithstanding the fair opening thus afforded, there were but few, nine in all, who availed themselves of the general's permission.

II.—Questions on general Greek grammar.

1. Give the Genitive and Gender of:—*οὖς*—*πούς*—*ἰχθύς*—*γῆρας*—*σκεῦος*. Compare *πολύς* — *ταχύς* — *πενής* — *πικρός* — *ὀλίγος*.

2. Parse:—*γεγόνασιν*, *κατέστραπται*, *ὑπειληφώς*, *ἀφιέναι*, *προέσθαι*, *φήσετε*, *κερδᾶναι*, *διαρρήδην*.

3. What constructions are usually found with:—*ἔπομαι*, *ἀμύνομαι*, *ἀλλάσσω*, *μέτεστι*, *σύνοιδα*, *λανθάνω*? Give examples.

4. Give the Greek of:—so to speak: after this: in addition to this: on this condition: much greater: day by day: at ten feet interval: towards Thrace: 1876 hoplites: would he were here!

5. Compare the Greek and Latin case-systems.

6. Translate and comment on :—

δέδοικα μὴ ἁμαρτάνεις — οὐ μὴ λῃρήσεις — ἐχρῆν σε παρεῖναι, ἵνα εἶδες αὐτόν — δυστάλαινα τἄρ' ἐγώ, εἰ σοῦ στερηθῶ — Φίλιππος δὲ εὑρέθη εἰς Ἄζωτον.

ANNUAL EXAMINATION.

ENGLISH LANGUAGE.

Examiner: PROFESSOR POND.

N. B.—Only nine questions are to be answered, of which Question 7 must be one.

1. Compare and contrast the present English Vocabulary with that of (a) the middle of the 16th century, and (b) the end of the eighteenth century. Show how the Scientific Vocabulary is constantly enriching the language.

2. Give the substance of Grimm's law (a) in its original form, (b) as simplified by rejecting the Old High German. Give your reasons for such rejection. Show how Verner's law explains exceptions to Grimm's law.

3. Trace the history of noun and adjective inflections in English (a) from Alfred to Chaucer, (b) from Chaucer to the present time.

4. Give the history of the Anglo-French language in England. Discuss the value of recent attempts to "Saxonize" our English style.

5. What is the history of the Strong Verbs in English. Explain, with examples, Vowel Mutation and Vowel Gradation.

6. Contrast Written and Spoken Language. Show that English suffered the greatest changes at the time when it had ceased to be a written language.

7. Transform the following passages accurately into modern English, adding notes on all points of philological interest, and pointing out in (b) and (c) the characteristic signs of dialect.

ANNUAL EXAMINATION.

(a) Hér cuóm se here tó Réadingum on Westseaxe, ond thœs ymb iii niht ridon ii eorlas úp. Thá geméttе híe Æthelwulf aldormann on Englafelda, ond him thær with gefeaht, ond sige nam. Thæs ymb iiii niht Æthered cyning ond Ælfred his bróthur thær micle fierd tó Réadingum gelæddon, ond with thone here gefuhton; ond thær wæs micel wæl geslægen on gehwæthre hond, ond Æthelwulf aldormann wearth ofslægen; ond thá Deniscan ahton wælstówe gewald.

(b) & the Normans ne couthe speke tho · bote hor owe speche,
& speke French as hii dude atom · & hor children dude also teche.
So that heiemen of this lond · that of hor blod come,
Holdeth alle thulke speche · that hii of hom nome.
Vor bote a man conne Frenss · me telth of him lute;
Ac lowe men holdeth to Engliss · & to hor owe speche yute.
Ich wene ther ne beth in al the world · contreyes none,
That ne holdeth to hor owe speche · bote Engelond one.

(c) 'Rise vp, Iosep, and busk and ga,
Maria and thi child al-sua,
For yow be-houes nu all thre
In land of Egypt for to fle;
Rise vp ar it be dai,
And folus forth the wildrin wai;
Herod, that es the child fa,
Fra nu wil sek him for to sla;
Thare sal yee bide stil wit the barn,
Til that I eft cum yow to warn.'

(d) But they, conuerted at hir wyse lore,
Wepten ful sore, and yauen ful credence
Vnto hir word, and cryden more and more,
'Crist, goddes sone withouten difference,
Is verray god, this is al our sentence,
That hath so good a seruant him to serue;
This with o voys we trowen, though we sterue!'

8. Discuss the peculiarities of Lamb's style and give instances of his love of mystification.

9. How would you justify Shakespere's addition of non-historical elements, to the Historical Drama. Illustrate your answer from the plays prescribed.

10. Explain the following allusions, &c., giving if possible the context in which they occur :—

Philoctetes is become an ordinary personage—Althea's horn in a poor platter — Tibbs and Bobadil, even when detected, have more of our admiration than contempt—They scent of Nimeguen and the Hague—You have been in the milder caverns of Trophonius—There is Comberbatch matchless in his depredations.

11. Explain the following, discussing points of grammar, and giving emendations where necessary :—

There comes no swaggerers here—For his Nose was as sharp as a Pen, and a Table of greene fields. (fol.)—Qualtitie calmie custure me — For Oldcastle died a martyr, and this is not the man—And now is this Vice's dagger become a squire—A Corinthian a lad of mettle.

Give the meaning and derivation of gimmal-bit, overscutched, old utis.

ANNUAL EXAMINATION

ENGLISH LITERATURE.

Examiner: PROFESSOR POND.

N.B.—Not less than one quarter of the time should be given to the Essay.

1. Show the close connection which existed between literature and politics in the reign of Anne, and discuss the effect on literature. Name, with authors and dates, some political pamphlets of the time which may be regarded as literature.

2. Write a life of Pope, with dates. Estimate his powers as a satirist. Whence did he derive the materials for his *Essay on Man?*

3. Give the origin of *The Tattler*. What was Steele's object in founding it? Discuss the influence of the Periodical Essay on the manners of the time. By what characteristics would you determine whether, in any given essay, the workmanship was Addison's or Steele's?

4. Contrast the aims and methods of *Robinson Crusoe* with those of *Gulliver's Travels*. How far is Defoe to be considered a classical writer of fiction?

5. How do you account for the ascendancy of the Heroic Couplet over all other forms of verse throughout this period? Instance some longer poems belonging to the time not written in this form.

6. How are the following names and phrases connected with the literary history of the time: — Namby-Pamby: Martinus Scriblerus: Vanessa: John Bull: Augustan?

7. Give a brief account of the lives and works of *not more than two* of the following: — Steele: Arbuthnot: Berkeley: Prior: Vanbrugh.

ANNUAL EXAMINATION.

8. State briefly what you know of the following works: — *The Tale of a Tub: Town Eclogues: Cato: The True Born Englishman: The Dispensary: The Beaux' Stratagem: The Fable of the Bees: The Beggars' Opera: The Campaign.*

Write an Essay on :—"Falstaff as a Comic Creation."

ANNUAL EXAMINATION.

FRENCH TRANSLATION.

Examiner: E. DE MONTALK, B.ès L. etc.

1. Translate into English:—

Une autre fois, elle représentait l'infortunée Ruth, qui retourne *veuve* et *pauvre* dans son pays, où elle se trouve étrangère, après une longue absence. Dominique et Marie contrefaisaient les *moissonneurs*. Virginie feignait de glaner çà et là, sur leurs pas, quelques épis de blé. Paul, imitant la gravité d'un patriarche, l'interrogeait: elle répondait en tremblant à ses questions. Bientôt, ému de pitié, il accordait l'hospitalité à l'innocence, et un asile à l'infortune; il remplissait le *tablier* de Virginie de toutes sortes de provisions, et l'amenait devant nous, comme devant les anciens de la ville, en déclarant qu'il la prenait en mariage malgré son indigence. Madame de La Tour, à cette scène, venant à se rappeler l'abandon où l'avaient laissée ses propres parents, son veuvage, la bonne réception que lui avait faite Marguerite, suivie maintenant de l'espoir d'un mariage heureux entre leurs enfants, ne pouvait s'empêcher de pleurer; et ce souvenir confus de maux et de biens nous faisait verser à tous des larmes de douleur et de joie.

Ces drames étaient rendus avec tant de vérité, qu'on se croyait transporté dans les champs de la Syrie ou de la Palestine. Nous ne manquions point de décorations, d'illuminations et *d'orchestre* convenables à ce spectacle. Le lieu de la *scène* était, pour l'ordinaire, au *carrefour* d'une forêt dont les percées formaient autour de nous plusieurs arcades de feuillage. Nous étions, à leur centre, abrités de la chaleur pendant toute la journée; mais, quand le soleil était descendu à l'horizon, ses rayons, brisés par les troncs des arbres, divergeaient dans les ombres de la forêt en longues gerbes lumineuses qui produisaient le plus majestueux effet. Quelquefois son disque tout entier

paraissait à l'extrémité d'une avenue et la rendait tout étincelante de lumière. Le feuillage des arbres, éclairés en dessous de ses rayons safranés, brillait des feux de la topaze et de l'émeraude ; leurs troncs mousseux et bruns paraissaient changés en colonnes de bronze antique ; et les oiseaux, déjà retirés en silence sous la sombre feuillée pour y passer la nuit, surpris de revoir une seconde aurore, saluaient tous à la fois l'astre du jour par mille et mille chansons.

2. Give the etymology of :—*veuve*, *pauvre*, *moissonneur*, *tablier*, *orchestre*, *carrefour*, *scène*.

3. Translate also—

LE MARQUIS.

Savez-vous qui je suis ?

VALERE.

Je n'ai pas cet honneur.

LE MARQUIS, *à part*.

Courage ; allons, marquis, montre de la vigueur,
(Haut.)
Il craint. Je suis pourtant fort connu dans la ville
Et si vous l'ignorez, sachez que je *faufile*
Avec ducs, archducs, princes, seigneurs, marquis,
Et tout ce que la cour offre de plus exquis ;
Petits-maîtres de robe à courte et longue queue,
J'évente les beautés et leur plais d'une lieue.
Je m'érige aux repas en maître *architriclin ;*
Je suis le chansonnier et l'âme du festin.
Je suis parfait en tout. Ma valeur est connue :
Je ne me bats jamais qu'aussitôt je ne tue :
De cent jolis combats je me suis démêlé ;
J'ai la *botte trompeuse* et le jeu très-brouillé.
Mes aïeux sont connus ; ma race est ancienne
Mon trisaïeul était vice-bailli du Maine.
J'ai le *vol du chapon ;* ainsi, dès le berceau,
Vous voyez que je suis gentilhomme manceau.

ANNUAL EXAMINATION.

VALERE

On le voit à votre air.

LE MARQUIS.

J'ai sur certaine femme,
Jeté, sans y songer, quelque amoureuse flamme.
J'ai trouvé la matière assez sèche de soi ;
Mais la belle est tombée amoureuse de moi.
Vous le croyez sans peine : on est fait d'un modèle
A prétendre *hypothèque*, à fort bon droit, sur elle ;
Et vouloir faire obstacle à de telles amours,
C'est prétendre arrêter un torrent dans son cours.

VALERE.

Je ne crois pas, monsieur, qu'on fût si téméraire.

LE MARQUIS.

On m'assure pourtant que vous le voulez faire.

VALERE.

Moi ?

LE MARQUIS.

Que, sans respecter ni rang, ni qualité,
Vous nourrissez dans l'âme une velléité
De me barrer son cœur.

VALERE.

C'est pure médisance ;
Je sais ce qu'entre nous le sort mit de distance.

LE MARQUIS, *bas*.

Il tremble.

(Haut.)

Savez-vous, monsieur du lansquenet,
Que j'ai de quoi rabattre ici votre *caquet ?*

VALERE.

Je le sais.

LE MARQUIS.

Vous croyez, en votre humeur caustique.
En agir avec moi comme avec l'as de pique.

VALERE.

Moi, monsieur ?

LE MARQUIS, *bas.*

Il me craint.

(Haut.)

Vous faites le plongeon,
Petit noble à nasarde, enté sur sauvageon.

(*Valère enfonce son chapeau.*)

(*Bas.*) (*Haut.*)

Je crois qu'il a du cœur. Je retiens ma colère !
Mais...

VALERE, *mettant la main sur son épée.*

Vous le voulez donc ? Il faut vous satisfaire.

LE MARQUIS.

Bon ! bon ! je ris.

VALERE.

Vos ris ne sont point de mon goût.
Et vos airs insolents ne plaisent point du tout.
Vous êtes un *faquin.*

LE MARQUIS.

Cela vous plaît à dire.

VALERE.

Un fat, un malheureux.

LE MARQUIS.

Monsieur, vous voulez rire.

VALERE, *mettant l'épée à la main.*

Il faut voir sur-le-champ si les vice-baillis
Sont si francs du collier que vous l'avez promis.

LE MARQUIS.

Mais faut-il nous brouiller pour un sot point de gloire ?

VALERE.

Oh ! le vin est tiré, monsieur ; il le faut boire.

LE MARQUIS, *criant.*

Ah ! ah ! je suis blessé.

4. Comment on the expressions—

Faufilez,
Petits-maîtres,
Architriclin,
La botté trompeuse,
Le vold du chapon,
Hypothéque,
Caquet,
Faquin.

ANNUAL EXAMINATION.

GRAMMAR AND PHILOLOGY.

French.

Examiner : E. de Montalk, B.ès L. etc.

1. Explain the meaning of the word *Métaplasme* and give a few French words having undergone the process of *métathèse*, *aphérèse*, and *Syncope*.

2. Give the *analyse philologique* of the word *Château*.

3. Give the Latin words from which come *écuyer*, *fleuve*, *droit*, *galant*, *mausade*, *siècle*, *toux*, *reigne*, *voie*.

4. Give the French words formed from—aurum, canis, homo, jugum, plangere, rigidus spissus, subtrahere, vox.

5. Show, by giving three examples for each case, that the Latin initial Sc, Sp, St, generally become in French éc, ép, ét. Explain how that came to pass.

6. What is meant by "Formation of words by agglutinative process." Give at least five examples.

7. Give the French for—

   It has been raining;
   Would he die?
   Go and fetch some.
   They had wept.
   You have gone out.
   Have they come?
   Charles the tenth abdicated in the year eighteen hundred and thirty-three.
   Why are you grumbling?

8. Why are the following *participe passés* correct? Give full reasons in each case :—

(*a*) Les huit mois que cette affaire a *traîné* m'ont *paru* huit siècles.

(*b*) Je ne regrette pas le temps ni les soins que cette affaire m'a *coûtés*.

(*c*) Les anciens ne s'etaient pas *formé* une ideé exacta de certains phénoměnes célestes.

(*d*) Je lui ai rendu tous les services que j'ai *pû*.

(*e*) L'assemblée fut moíns indulgente que je ne l'avais *espéré*.

(*f*) Les pièces que j' ai *vu jouer* ont été fort applaudies.

(*g*) Les enfants que j'ai *vus* dessiner étaient déja *exercés*.

(*h*) Ta joie fut aussi vlve que nous l'avions *supposé*.

9. When would you translate—

to walk by *se promener*, when by *marcher*

there is	,, *voilà*	,,	*il y a*
fire	,, *feu*	,,	*incendie*
game	,, *jeu*	,,	*gibier*
eve	,, *veille*	,,	*vigile*

ANNUAL EXAMINATION.

COMPOSITION AND LITERATURE.

FRENCH.

Examiner: E. DE MONTALK, B.ès L. etc.

1. Translate into French:—

The story of a literature's decline and fall, as exemplified by Alexandrian and Roman cosmopolitanism, is curiously like and unlike that of Israel's decadence. Hebrews, like Athenians, before the destruction of their political independence had lost much of their old communal sympathies. Perhaps no better exemplification of the principle that the movement of progressive societies is from communal to individual life can be found all the world over than the contrast between the inherited guilt of the Decalogue and the strenuous assertion of personal responsibility by Ezekiel. "Behold," says the nâbî, "all souls are to me thus—as a soul the father and as a soul the son; thus are they to me; the sinning soul, *it* shall die. . . . The sinning soul, *it* shall die; son shall not bear the father's sin, nor father bear the son's sin; the righteousness of the righteous shall be on himself, and the iniquity of iniquitous shall be on himself." Between the period at which the Hebrew castes of priests had collected the customs of the allied tribes and the age of Ezekiel we may thus infer that a great social change had taken place. Clan life among the priestly and landowning aristocracy of Israel, as afterwards in the town life of Athens and Rome, had been broken up and the spirit of self-interest and personal responsibility had been developed. No doubt the Hebrew village communities still remained as the social organisation of the *'am hâdretz*, or "common folk of the land." But, just as the village communities in India became subordinated to the Bráhmans, so the Hebrew clansmen seem to have sunk perhaps even into serfdom under the rule of their priests and nobles.

2. Write a short essay (in French) on *La Satire Ménippée.*

3. State what you know of Rabelais, Ronsard, Amyot, Marot, d'Aubigné, Saint Gellais, Gringoire, Brantôme, Cujas, Le Maire de Belge.

4. Name the authors of—

   De l' Institution chrétienne
   De la Servitude volontaire
   L. 'Heptaméron
   La couronne margaritique
   Les Contes d' Eutrapel.

5. Explain the *mouvement littéraire de la Pléiade de Charles IX.*, and point out the result of that *mouvement* so far as modern French orthography is concerned.

ANNUAL EXAMINATION.

HISTORY.

Examiner : Mr. J. H. Turner, M.A.

1. How was the outbreak of the French Revolution viewed by the various classes of English society ?

   Show how England was affected by the Revolution prior to the declaration of war by France.

2. Give an account of the state of Ireland during the years immediately preceding the legislative Union with Great Britain. What were the provisions of the Union ?

3. What do you know of :—Walcheren Expedition ; Treaty of Tilsit ; Manchester Massacre ; Battle of Assaye ; Holy Alliance ?

4. Write an account of Lord Palmerston's Foreign Policy.

5. Give some account of :—The Tractarian Movement ; The Factory Acts ; The Municipal Reform Bill.

6. What changes in British territory took place during the first half of the nineteenth century ?

7. What do you know of :—Lord Durham ; Daniel O'Connell ; Mr. Huskisson ?

8. Write a brief account of the rise and progress of the Free-trade movement in England.

ANNUAL EXAMINATION.

POLITICAL ECONOMY.

Examiner: Mr. J. H. Turner, M.A.

1. Define the following terms:—Wealth, Circulating capital, Cost of Production, Credit.

2. What do you mean by—Localisation of Industry, Balance of Trade, Doctrine of *laisser faire*, Incidence of Taxation?

3. Write a short account of the growth of Trades unions.

4. What remedies for low wages have been suggested? What do you understand by the 'Wages-fund Theory'?

5. Briefly review the conditions that led to the establishment of the present English system of Poor Law relief.

6. 'Rent does not enter into the expenses of production'—'Saving, not spending, *makes* work for the workman.' Discuss these statements and investigate the meaning of the words 'A fair day's wages for a fair day's work.'

7. What are the advantages that co-operation offers in competition with shop-keepers?

   Give a short account of the progress of the co-operative movement.

8. 'Ethics and economics meet and aim at the same result.' Explain this statement and show the importance of such teaching as indicating the tendency of modern economic theories.

ANNUAL EXAMINATION.

JURISPRUDENCE.

Examiner: J. A. Tole, B.A., LL.B., Barrister-at-Law.

1. What are the essentials of a "Law" properly so called?

2. Is there any, and if any, what sanction attached to—

   (*a.*) International Law.

   (*b.*) Constitutional Law.

3. Give instances wherein the Law of God, Positive Law, and Positive Morality coincide.

4. Distinguish between Federal and Confederate Governments.

5. Examine the statement that "Every Government continues through the people's consent."

6. Give the meanings variously attributed to "Right," "Droit," "Jus." Consider the following proposition: "The Government has no right to overtax the people."

7. Enumerate the cases in which duties are absolute.

8. Discuss the limit of the proposition "Ignorantia legis non excusat."

9. Granting that a certain Law is considered mischievous, how would it be dealt with

   (*a.*) by a Judge.

   (*b.*) by a writer on Ethics?

10. What different views have been taken of the scope of Public Law?

ANNUAL EXAMINATION.

11. Distinguish "*Ratio legis*" and "*Ratio decidendi*," and apply the distinction to the phrase "*Cessante ratione legis, cessat lex ipsa.*"

12. Discuss Thibaut's definition of "Status," and the German definition of "*Caput.*"

ANNUAL EXAMINATION.

CONSTITUTIONAL HISTORY.

Examiner : Hon. J. A. Tole, B.A., LL.B., Barrister-at-Law.

1. What is the main element of English nationality, and in what primæval institutions must we look for the germs of our present constitution ?

2. In what does the constitutional importance of the reign of William Rufus mainly consist.

3. What important changes in taxation were introduced by Henry II., and with what results ?

4. Trace shortly the origin of Parliament, and its division into two Houses. What was the first instance of collision between them and what was the cause ?

5. Distinguish between Bills of Attainder and Impeachments, and give an historical instance of each.

6. Describe the constitutional results of the reign of James I.

7. Mention the principal salutary and remedial enactments of the "Long Parliament."

8. Give the chief constitutional statutes of Charles II.'s reign. Did the Habeas Corpus Act introduce any new principle or confer any new right ?

9. What have been the financial and economical effects of the Parliamentary Union of Ireland and England ?

10. Describe generally the progress of the constitution since the revolution of 1688.

ANNUAL EXAMINATION.

GERMAN—Paper A.

Examiner: Mr. W. Michell Clarke, M. A.

(*You are requested to send up each section separately.*)

I. Translate into English:—

Das Wesen des Liedes ist Gesang, nicht Gemälde; seine Vollkommenheit liegt im melodischen Gange der Leidenschaft oder Empfindung, den man mit dem alten treffenden Ausdruck Weise nennen könnte. Fehlt diese einem Liede, hat es keinen Ton, keine Modulation, keinen gehaltenen Gang und Fortgang derselben: habe es Bild und Bilder und Zusammensetzung und Niedlichkeit der Farben, soviel es wolle—es ist kein Lied mehr. Oder wird jene Modulation durch irgend etwas zerstört, bringt ein fremder Verbesserer hier eine Parenthese von malerischer Komposition, dort eine niedliche Farbe von Beiwort u. s. f. hinein, bei der wir den Augenblick aus dem Ton des Sängers, aus der Melodie des Gesanges hinaus sind und ein schönes, aber hartes und nahrungsloses Farbenkorn kauen: hinweg Gesang, hinweg Lied und Freude! Ist gegenteils in einem Liede Weise da, wohlangeklungene und wohlgehaltene, lyrische Weise: wäre der Inhalt selbst auch nicht von Belange, das Lied bleibt und wird gesungen. Ueber kurz oder lang wird statt des schlechten ein besserer Inhalt genommen und darauf gebauet werden; nur die Seele des Liedes, poetische Tonart, Melodie ist geblieben. Hätte ein Lied von guter Weise einzelne merkliche Fehler: die Fehler verlieren sich, die schlechten Strophen werden nicht mitgesungen; aber der Geist des Liedes, der allein in die Seele wirkt und Gemüter zum Chor regt, dieser Geist ist unsterblich und wirkt weiter. Lied muss gehört werden, nicht gesehen; gehört mit dem Ohr der Seele, das nicht einzelne Silben allein zählt und misst und wäget, sondern auf Fortklang horcht und in ihm fortschwimmet.

II. Translate in German :—

THE SIEGE OF ARCOT.

During fifty days the siege went on. During fifty days the young captain (Clive) maintained the defence with a firmness, vigilance, and ability which would have done honour to the oldest marshal in Europe. The breach, however, increased day by day. The garrison began to feel the pressure of hunger. Under such circumstances any troops scantily provided with officers might have been expected to show signs of insubordination; and the danger was peculiarly great in a force composed of men differing widely from each other in extraction, colour, language, manners and religion. But the devotion of the little band to its chief surpassed anything that is related of the Tenth Legion of Cæsar, or of the Old Guard of Napoleon. The Sepoys came to Clive, not to complain of their scanty fare, but to propose that all the grain should be given to the Europeans, who required more nourishment than the natives of Asia. The thin gruel, they said, which was strained away from the rice, would suffice for themselves. History contains no more touching instance of military fidelity, or of the influence of a commanding mind. An attempt made by the government of Madras to relieve the place had failed. But there was hope from another quarter. Morari Row declared that he had never before believed that Englishmen could fight, but that he would willingly help them since he saw that they had spirit to help themselves.—*Macauley.*

III. Grammar :—

1. Explain and illustrate (*a*) the original meaning of the derivative suffixes heit, keit, tum, nis, icht, ig, and (*b*) the meaning imparted to verbs by the prefixes ent, ver, zer, empor, fort.

2. Show by examples what cases are governed by the following prepositions :—über, vor an, auszer, nach, durch.

3. When must you use der and not welcher ?

4. State what you know about the gender of (*a*) compound nouns, and (*b*) names of countries, provinces, and towns.

5. State the different uses of kennen and wissen.

6. Give 2nd person singular present indicative, imperative, and past subjunctive of messen, nehmen, helfen, fliegen, steigen, sehen.

7. Translate into idiomatic German :—

He would have liked to come but he was not allowed to. They say he is ill. The storm was most violent at two o'clock. I relieve him of all his care. The library is open every day, except Sunday, from nine o'clock in the morning till eight o'clock at night. He is below in the garden. Do not sit on the grass, it is damp. In town, in the country.

ANNUAL EXAMINATION.

GERMAN—Paper B.

Examiner: MR. W. MICHELL CLARKE, M.A.

(You are requested to send up each section separately.)

I. Translate into English :—

(*a*) Wir fanden, als wir in den Saal zurückkamen, mit einer Kohle einen weiten Kreis beschrieben, der uns alle zehn bequem fassen konnte. Rings herum an allen vier Wänden des Zimmers waren die Dielen weggehoben dasz wir gleichsam auf einer Insel standen. Ein Altar, mit schwarzem Tuch behangen, stand mitten im Kreis errichtet, unter welchen ein Teppich von rotem Atlas gebreitet war. Eine chaldäische Bibel lag bei einem Totenkopf aufgeschlagen auf dem Altar, und ein silbernes Kruzifix war darauf fest gemacht. Statt der Kerzen brannte Spiritus in einer silbernen Kapsel. Ein dicker Rauch von Olibanum verfinsterte den Saal, davon das Licht beinahe erstickte. Der Beschwörer war entkleidet wie wir, aber barfusz ; um den bloszen Hals trug er ein Amulett an einer Kette von Menschenhaaren, um die Lenden hatte er eine weisze Schürze geschlagen, die mit geheimen Chiffren und symbolischen Figuren bezeichnet war. Er hiesz uns einander die Hände reichen und eine tiefe Stille beobachten; vorsüglich empfahl er uns, ja keine Frage an die Erscheinung zu thun.

(*b*) Diese Redensart verstehe ich nicht. Widerspricht es allen Gesetzen der Zeit, des Raums und der physischen Wirkungen, dasz ein so gewandter Kopf, wie doch unwidersprechlich dieser Armenier ist, mit Hilfe seiner vielleicht ebenso gewandten Kreaturen in der Hülle der Nacht, von niemand beobachtet, mit allen Hilfsmitteln ausgerüstet, von denen sich ein Mann dieses Handwerks ohnehin niemals trennen wird, dasz ein solcher Mensch, von solchen Umständen begünstigt, in so weniger Zeit so viel zustände bringen könnte ? Ist es geradezu undenkbar und abgeschmackt, zu

glauben, dasz er mit Hilfe weniger Worte, Befehle oder Winke seinen Helfershelfern weitläuftige Aufträge geben, weitläuftige und zusammengesetzte Operationen mit wenigem Wortaufwande bezeichnen könne?—Und darf etwas andres als eine hell eingesehene Unmöglichkeit gegen die ewigen Gesetze der Natur aufgestellt werden? Wollen Sie lieber ein Wunder glauben, als eine Unwahrscheinlichkeit zugeben? lieber die Kräfte der Natur umstürzen, als eine künstliche und weniger gewöhnliche Kombination dieser Kräfte sich gefallen lassen?

"Die frühen Gräber."

(*c*) Willkommen, o silberner Mond,
Schöner, stiller Gefährt' der Nacht!
Du entfliehst! Eile nicht, bleib', Gedankenfreund!
Sehet, er bleibt, das Gewölk wallte nur hin.

Des Maies Erwachen ist nur
Schöner noch wie die Sommernacht,
Wenn ihm Tau, hell wie Licht, aus der Locke träuft
Und zu dem Hügel herauf rötlich er kömmt.

Ihr Edleren, ach, es bewächst
Eure Male schon ernstes Moos!
O wie glücklich war ich, als ich noch mit euch
Sahe sich röten den Tag, schimmern die Nacht?

(*d*) Aber du, Frühlingswürmchen,
Das grünlichgolden neben mir spielt,
Du lebst und bist vielleicht,
Ach, nicht unsterblich!

Ich bin herausgegangen, anzubeten,
Und ich weine? Vergieb, vergieb
Auch diese Thräne dem Endlichen,
O du, der sein wird!

Du wirst die Zweifel alle mir enthüllen,
O du, der mich durch das dunkle Thal
Des Todes führen wird! Ich lerne dann,
Ob eine Seele das goldene Würmchen hatte.

Bist du nur gebildeter Staub,
Sohn des Mais, so werde denn
Wieder verfliegender Staub,
Oder was sonst der Ewige will!

Ergeusz von neuem du, mein Auge,
Freudenthränen!
Du, meine Harfe.
Preife den Herrn!

II. (*a*) Translate and explain the following phrases and words:—

1. Er mag sich noce glücklich preisen, wenn er mit der Galeere davonkommt.
2. Mein Gewährsmann der untrügliche Graf von Gabalis.
3. Er hat sich des gröbern Gaukelspiels bedient.
4. Ich habe Richard den Dritten von Garrick gesehen.

(*b*) On which syllable is the accent in the following words:—Armenier, Venedig, Magier, Bibel Mutmaszung.

(*c*) Scan the first four lines of Ic "Die frühen Gräber."

III. German literature:—

1. (*a*) Give the chief incidents in Schiller's life from 1787-1800.

(*b*) Give a summary analysis of any *two* of Schiller's plays.

(*c*) What was Schiller's object in writing "Der Geisterseher," and what was the probable reason of his leaving this work unfinished?

2. Give an account of the life and works of Klopstock, with special reference to (*a*) Klopstock als Odendichter; (*b*) "Der Messias".
3. What do you know of the Ballad Poetry of Göthe and Schiller?
4. Give a short biographical sketch of Jean Paul Richter.
5. What do you know of Friedrich Muller, artist and poet?
6. What is generally known as the Classical Period in German literature? Give some of the characteristic features of this period.

ANNUAL EXAMINATION.

ARITHMETIC AND ALGEBRA.

Examiner: PROFESSOR ALDIS.

1. Give the rules for multiplication and division of decimal fractions. Multiply 43·138 by 2·348; and divide 257·153 by ·00151, and 2·57153 by ·0151.

2. A pays £9 3s. 4d. more rates than B, their incomes being equal: living in different towns they are rated at 2s. and 1s. 4d. in the £ respectively. What is their income?

3. State the rules for the multiplication of any two algebraical expressions together.

   Multiply $x^3 - 2x^2 + 3x - 4$ by $x^3 + 2x^2 - 3x - 4$.

4. Divide $a^4 + a^3b - 8a^2b^2 + 19ab^3 - 15b^4$ by $a^2 + 3ab - 5b^2$ and divide $a^3(b-c) + b^3(c-a) + c^3(a-b)$ by $a^2(b-c) + b^2(c-a) + c^2(a-b)$.

5. Define a fraction. Explain what is meant by the multiplication of fractions, and from the meaning prove that

$$\frac{a}{b} \times \frac{c}{d} = \frac{ac}{bd}.$$

6. Simplify $\left\{ \frac{2x+y}{x+y} + \frac{2y+x}{x-y} - \frac{x^2}{x^2-y^2} \right\} \div \left\{ \frac{x}{x+y} + \frac{y}{x-y} \right\}$.

7. Show that if $x + y + z = 0$

   (1) $x^3 + y^3 + z^3 = 3xyz$

   (2) $x^5 + y^5 + z^5 = \frac{5xyz}{2}(x^2 + y^2 + z^2)$.

8. Show how to solve a quadratic equation.

Solve the equations—

$$(1)\quad \frac{3x-2}{2x-5}-\frac{2x-5}{3x-2}=\frac{8}{3}$$

$$(2)\quad \frac{9}{1+x+x^2}=5-x-x^2\,.$$

9. What is meant by quantities being in Arithmetic, Geometric and Harmonic progression respectively? Find the values of the Arithmetic, Geometric and Harmonic means between two quantities a and b, and prove that they are in Geometric progression. Which of them is the greatest?

10. Find the number of combinations of n things taken r together. For what value of r will this be greatest?

Prove that the number of combinations of n things r together is the same as when taken $(n-r)$ together.

11. Prove the Binomial Theorem for a positive integral exponent.

Expand $(2a-3b)^6$, and find the term involving x^{12} in the expansion of $\left(x^3-\frac{y^4}{x}\right)^{12}$

12. Define a logarithm. Prove that to any base

$$\log a+\log b=\log(ab)$$
$$\log a^n=n\log a.$$

Find the logarithm of $\sqrt{\frac{216}{343}}$,

given $\log 2=\cdot3010300$; $\log 3=\cdot4771213$;
$\log 7=\cdot8450980$.

ANNUAL EXAMINATION.

GEOMETRY AND TRIGONOMETRY.

Examiner: PROFESSOR ALDIS.

1. Define an angle, a right angle, a rectangle, a triangle, a circle. On a given straight line describe an equilateral triangle. How many such triangles can be described? In what proposition does Euclid imply the fact that there can be more than one?

2. Prove that triangles on the same base and between the same parallels are equal to each other.

   Through a given point in the base of a triangle draw a straight line bisecting the triangle.

3. Prove that if a straight line be bisected and also unequally divided, the rectangle contained by the unequal parts is equal to the difference of the squares on half the line and on the line between the points of section.

   Show that if the sum of two lines is given the rectangle contained by them is greatest when they are equal.

4. Define a segment of a circle, the angle in a segment.

   Prove that the angle at the centre standing on any arc is double of the angle at the circumference standing on the same arc. Hence prove that the angle in a semicircle is a right angle, and the angle in a major segment is less than a right angle.

5. Show how to describe an isosceles triangle having each angle at the base double of the vertical angle. Show that the line joining the points of intersection of the two circles in the figure is equal to the base of the triangle.

6. Give Euclid's test of the equality of two ratios. Prove that triangles of equal altitudes are proportional to their bases,

7. In a cyclic quadrilateral prove that the rectangle contained by the diagonals is equal to the sum of the rectangles contained by pairs of opposite sides.

A B C is an equilateral triangle. P is any point on the circumcircle. Prove that one of the three lines PA, PB, PC is always equal to the sum of the other two.

8. Define a radian. Find the number of radians in the angle of an equilateral triangle, and in angles of 45°, 72°, and 67° 30′.

9. Define the tangent of an angle, and show how from the value of the tangent to find the values of the other trigonometrical functions. Given $\tan A = \frac{5}{12}$, find the sine, cosine and secant of A.

10. Prove that

$$\sin (A + B) = \sin A \cos B + \cos A \sin B;$$

first, when A, B, and A + B are all acute; secondly, when A and B each lie between 90° and 135°.

11. In any triangle prove that

$$(1) \quad \frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

$$(2) \quad a = b \cos C + c \cos B.$$

12. Explain how to solve a triangle when two sides and the angle opposite to one of them are given.

Discuss the different cases both geometrically and trigonometrically.

13. Find an expression for the area of a triangle in terms of its three sides. If the sides be 13, 14, 15, find the area.

ANNUAL EXAMINATION.

ADVANCED MATHEMATICS. (Paper A.)

Geometry, &c.

Examiner: Professor Aldis.

1. Given two points and a straight line not passing between them, find a point in the straight line the sum of whose distances from the given points is least.

   Prove that the triangle of least perimeter that can be inscribed in a given triangle is the pedal triangle.

2. If a straight line be divided into two equal parts and also into two unequal parts, the rectangle contained by the two unequal parts, together with the square on the line between the points of section, is equal to the square on half the line.

   A B is the diameter of a circle, P any point in it; CD a chord parallel to AB. On the diameter, PK, PL are measured, each equal to PC, and PM, PN each equal to PD. Prove that the rectangle contained by AK, AL is equal to that contained by BM, BN.

3. If two circles cut at right angles at P, the lines joining P to the extremities of the common diameters pass through extremities of the perpendicular diameters.

4. Inscribe a circle in a given triangle.

   A circle touches one side BC of a triangle, and the other two sides produced, the points of contact being D, F, E. If I be the centre of the inscribed circle prove that the triangles IAE, IAF are together equal to the triangle ABC.

5. If a quadrilateral be inscribed in a circle the rectangle contained by the diagonals is equal to the sum of the rectangles contained by pairs of opposite sides.

If from any point on the circumference perpendiculars be drawn to the four sides, their lengths are the four terms of a proportion.

6. Prove that two straight lines which are each of them parallel to the same straight line and not in the same plane with it, are parallel to one another.

The straight lines joining the middle points of opposite edges of a tetrahedron meet in a point.

7. Define a conic section; and prove geometrically that in any conic section the two tangents drawn from an external point subtend equal angles at the focus.

8. Prove that in a parabola, if QV be an ordinate to the diameter PV, $QV^2 = 4SP \cdot PV$.

If AVB be any chord through V, and AM, BN be ordinates to PV, prove that $PV^2 = PM \cdot PN$.

9. Find the length of the perpendicular from a point (α, β) on the straight line whose equation is $Ax + By + C = 0$.

Prove that the product of the perpendiculars from the same point on the two straight lines represented by

$$Ax^2 + Bxy + Cy^2 = 0$$

is $$\frac{A\alpha^2 + B\alpha\beta + C\beta^2}{\sqrt{(A - C)^2 + B^2}}$$

10. Find the equation of a circle in oblique co-ordinates.

Find the equation of a circle touching the co-ordinate axes and the straight line $lx + my = p$, the axes being inclined at an angle ω.

ANNUAL EXAMINATION.

11. Find the equation of the polar of a point with respect to the ellipse

$$\frac{x^2}{a^2}+\frac{y^2}{b^2}=1$$

Hence find the co-ordinates of the pole of the straight line $lx+my=p$.

Find the locus of the pole of a fixed straight line with respect to a series of confocal ellipses.

12. If $\alpha=0$, $\beta=0$, $\gamma=0$ be the equations of three straight lines forming a triangle find the equation of any conic section circumscribing the triangle.

Find the condition that the conic may be a circle. What is represented by the equation $\beta\gamma-\alpha^2=0$?

ANNUAL EXAMINATION.

ADVANCED MATHEMATICS. (PAPER B.)

ALGEBRA, TRIGONOMETRY, &c.

Examiner: PROFESSOR ALDIS.

1. Mention two methods which are useful for finding the factors of algebraical expressions.

Resolve into factors

(1) $x^3(y-z)+y^3(z-x)+z^3(x-y)$

(2) $a^3b-3a^2bc-a^3d+3a^2cd+3abc^2-3ac^2d+ab^3-3ab^2d+3abd^2-ad^3-bc^3+c^3d-b^3c+3b^2cd-3bcd^2+cd^3$.

2. Investigate the expansion

$$\log_e(1+x)=x-\frac{x^2}{2}+\frac{x^3}{3}-\frac{x^4}{4}+\ldots$$

Prove that

$$\frac{1}{2}\left[\log_e(1+x)\right]^2=\frac{x^2}{2}-\left(1+\frac{1}{2}\right)\frac{x^3}{3}+\left(1+\frac{1}{2}+\frac{1}{3}\right)\frac{x^4}{4}-\ldots$$

3. State and prove any test with which you are acquainted for the convergency of a series.

Prove that the series $\frac{1}{1^p}+\frac{1}{2^p}+\frac{1}{3^p}+\ldots$ is convergent if p is greater than unity, and divergent if p is equal to or less than unity.

Find whether the series

$$(1)\quad \frac{2}{2^2-1}+\frac{3}{3^2-1}+\ldots.$$

$$(2)\quad \frac{2}{2^3+1}+\frac{3}{3^3+1}+\ldots.$$

are convergent or divergent.

ANNUAL EXAMINATION.

4. Show how to sum a series whose n^{th} term is

$$(A + Bn + Cn^2 + Dn^3)\, x^{n-1}$$

Show that $(1^3 + 2^3 \ . \ . + n^3) = (1 + 2 + 3 + \ . \ + n)^2$.

5. The probability of an event happening in one trial being p, find the chances of its happening exactly r times in n trials. A couple of dice are thrown. Give the probabilities of the numbers 3 and 9 being thrown respectively. Find the value of the expectation of a single throw.

6. Prove that $(1 + \sin\theta)(3 \sin\theta + 4 \cos\theta + 5)$ is a perfect square. Find $\cot\theta$ when $\tan^3\theta = \tan(\theta - a)$.

Given $\tan^2 x + \sec 2x = \frac{7\sqrt{3} - 10}{\sqrt{3}}$, prove that $\cos 2x = -\frac{5 + 4\sqrt{3}}{23}$.

7. Solve the trigonometrical equations

$$\cos x + \cos y = a, \ \sin x + \sin y = b;$$

and eliminate a and β between the equations

$$\frac{x}{a}\cos a + \frac{y}{b}\sin a = 1, \frac{x}{b}\cos\beta + \frac{y}{b}\sin\beta = 1$$

$$\text{and } a^2 \sin a \sin\beta + b^2 \cos a \cos\beta = 0$$

Give a geometrical interpretation of this result.

8. Prove that the area of a triangle can be expressed either as $2R^2 \sin A \sin B \sin C$ or $r^2 \cot\frac{1}{2}A \cot\frac{1}{2}B \cot\frac{1}{2}C$ where R and r are the circumradius and the in-radius respectively.

9. Explain the meaning of the symbol $\tan^{-1}x$.

Prove by a figure that the sum of the smallest values of $\tan^{-1}\frac{1}{2}$ and $\tan^{-1}\frac{1}{3}$ is half a right angle.

Prove that $\tan^{-1} a + \tan^{-1} b = \tan^{-1}\frac{a+b}{1-ab}$

10. Sum the series

(1) $\sin a + \sin(a+\beta) + \sin(a+2\beta) + \ldots$ to n terms.

(2) $1 + x\cos a + \frac{x^2}{\lfloor 2}\cos 2a + \frac{x^3}{\lfloor 3}\cos 3a + \ldots$ to infinity.

(3) $\sin\theta \sin 2\theta \sin 3\theta + \sin 2\theta \sin 3\theta \sin 4\theta + \ldots$ to n terms.

11. Prove that

$$x^n - 1 = (x-1)\left(x^2 - 2x\cos\frac{2\pi}{n} + 1\right)\ldots;$$

and give the last factor in the two cases of n even, and n odd

ANNUAL EXAMINATION.

APPLIED MATHEMATICS.

Examiner: PROFESSOR ALDIS.

1. Define force, mass, and acceleration, and give the relation which exists between the force acting, the mass acted upon, and the acceleration produced.

2. Find the velocity produced and the space passed over in a given time by a particle starting with a velocity u and animated by an acceleration a in its line of motion. Show that if v be the final velocity and s the space passed over, $as = \frac{1}{2}(v^2 - u^2)$.

3. Give Newton's third law of motion. Two bodies, of masses m and m' respectively, are connected by a string which passes over a pulley, and hang freely. Discuss the motion. If the two masses be 7lbs. and 9lbs. respectively, and they are initially at rest, how long will it take for the heavier to descend through 8 feet?

4. Find the time of descent down a smooth inclined plane and the velocity acquired in falling through any given distance.

   Prove that the times of descent down all chords of a vertical circle through its highest point are equal.

5. State the propositions known as the parallelograms of velocities, accelerations, and forces respectively. Deduce the last from the second.

6. Find the resultant of any number of forces acting at a point in one plane.

   Deduce the conditions of equilibrium.

7. Find the relation between the power and the weight in the system of pullies in which each pulley hangs by a separate string, (1) neglecting the weights of the pullies, (2) taking them into account.

8. Define the centre of gravity of a body. Find that of a uniform triangular lamina, and show that it is the same as that of three equal particles at the angular points of the triangle.

9. State the laws of friction and of limiting friction. Find the least power which, acting at a given angle to a given rough inclined plane, will just support a given weight. What must be the direction of this force so that it may have the smallest value possible?

10. Define a fluid, pressure at a point of a fluid. Show that in the case of a heavy fluid at rest under the action of gravity alone, the pressure is the same at all points in the same horizontal plane.

11. What is meant by the whole pressure on a surface? Find an expression for its value, the atmospheric pressure on the upper surface of the liquid being taken into account. A triangle ABC has the side AB in the upper surface of the liquid. Find a point D in BC such that the pressures on the triangles ABD and ADC shall be equal, neglecting the atmospheric pressure.

12. Describe the mercurial Barometer.

13. Explain how to compare the specific gravities of two liquids by means of Nicholson's hydrometer.

ANNUAL EXAMINATION.

EXPERIMENTAL PHYSICS.

Examiner: PROFESSOR BROWN.

1. Define the term "moment" of a magnet and describe exactly how you would compare the moments of two magnets?

2. Explain Ampère's theory of magnetism, and give a brief account of the facts upon which it is based.

3. What is meant by the term "capacity" of a conductor? The outside coating of a spherical air condenser is separated from the inner by a ditsance of 1^{mm} and has a radius of 10 cms. Find (approximately) the capacity of the condenser, and the work which must be done in order to charge the inside coating to the potential of 10 e.g.s., unl., when the outside is put to earth.

4. Describe Lord Kelvin's trap door electrometer, and explain its use. Show that if the force of attraction between the discs remains constant, the P.D. between the discs will be proportional to the distance between them.

5. Explain the principle and method of using the sine galvanometer.

6. A platinum wire of 10 ohms resistance is immersed in 250 grams of water, and connected with the poles of a battery of E.M.F., 20 volts, and internal resistance one ohm. Find the rise of temperature of the water in one minute when the battery poles are also connected by a galvanometer having a resistance of 100 ohms., but shunted with a wire having 1/9th of the resistance of the galvanometer.

7. Give an account of the method of representation of the thermo-electric properties of metals known as the thermo-electric diagram.

8. What is self induction? Show that the effects produced are similar to those which would result from electric inertia.

9. A horse shoe electro-magnet is placed in a vertical position with the poles uppermost, and, while the magnetising current is passing, the armature is allowed to fall upon the poles. Will the fall of the armature affect the current, and if so, in what manner? Will the effect produced be dependent upon the size of the armature?

ANNUAL EXAMINATION.

CHEMISTRY.

Examiner: PROFESSOR BROWN.

1. Describe and explain the chief processes by which sodium carbonate is manufactured.

2. State exactly how you would proceed in order to obtain the following chlorides, pure and anhydrous, Na Cl, Mg Cl_2, Cu_2 Cl_2, Hg Cl_2.

3. Give the systematic names and formula of the following substances: Carnallite, Selenite, Celestine, Dolomite, Calamine, Malachite, Pyrolusite.

4. In smelting iron-ores in the blast furnace, it is customary to add limestone to the mixture of iron-ore and coal. State exactly the reason for this addition.

5. In classifying the elements, iron has often been placed with aluminium, though it is now generally grouped with manganese. Discuss the relative merits of these arrangements.

6. Write down the formulæ of chromium sulphate, chromyl chloride, potassium chromate, and potassium bichromate. How is potassium bichromate prepared on a large scale?

7. You are given a small quantity of an alloy of silver and lead; describe any two processes by which you could separate the metals.

8. Draw up a scheme for the complete separation of the following substances contained in a solution, taking care that it does not contain unnecessary processes: antimony, tin, iron, manganese and zinc.

9. How would you obtain propionic acid from ethyl alcohol, and lactic acid from propionic acid?

10. Give some account of phenol. How would you convert it (a) into benzine, (b) into hydroquinone, (c) into pyrogallol?

ANNUAL EXAMINATION.

BIOLOGY.

Examiner: PROFESSOR THOMAS.

Medical Students are requested to answer questions in Sections I., II. and IV.; but must not attempt more than eight questions altogether, nor more than three in any one section.

Other Students are requested to answer questions in Section I. and in one other section only.

I.—GENERAL BIOLOGY.

1. Give examples of general contractility and of special contractile organs as found in animals. What do you know of contractility amongst plants?

2. What do you understand by the differentiation of tissues? In what respects and for what reasons do the permanent tissues differ from the embryonic tissues (a) in the higher animals, (b) in the higher plants?

3. What do you understand by degeneration and how can it be reconciled with the theory of the evolution of organic life? Give examples of (a) degenerate organisms, both animal and vegetable, (b) of degenerate organs in highly developed organisms.

4. What important relation has the study of geographical distribution to the subject of evolution?

II.—BOTANY (JUNIOR).

1. Define the terms phyllode, phylloclade, corm, cyme, capitulum. Explain the significance of the structures referred to.

2. Describe the process of the absorption of carbon by the plant. Show how the general form of the plant and the minute structure of the assimilating organs is

related to the process. What are the necessary conditions for its due performance?

3. What evidence can you adduce as to the nature of the carpel in the flower? What are the chief modifications found in the gynoecium in different natural groups of plants?

4. Give an account of the chief variations seen in the structure of the flower and fruit in the Rosaceae, Give examples from other natural orders in which similar arrangements are seen.

III.—Botany (Senior).

1. Give an account of the usual structure and mode of growth of the stem in the monocotyledons.

2. Give a short account of the chief modes of reproduction seen amongst the fungi and mention algae in which similar modes are seen.

3. What is the apical cell and in what plants does it occur? What is its significance in relation to the development of the tissues? From what plants is it absent and by what is it replaced?

4. Give an account of the structure and development of Selaginella. Compare the mode of reproduction in Selaginella with that of the fern and pine respectively.

IV.—Zoology.

1. Describe the mode of formation of the germinal layers in (a) an egg free from yolk, (b) an egg laden with yolk, and show how the difference between them may be explained. To what systems of organs do the different layers give rise?

ANNUAL EXAMINATION.

2. Give an account of the structure of the nervous system in the earthworm, amphioxus and rabbit, and draw attention to points of resemblance and of difference.

3. Give a comparative account of the organs of circulation in a fish and a bird. In what way does the study of development aid in the comparison?

4. Give an account of the exoskeleton in the crayfish. How far is it correct to say that the body of the crayfish is composed of a series of similarly constructed segments?

ANNUAL EXAMINATION.

GEOLOGY.

Examiner: PROFESSOR THOMAS.

1. Which is the most important natural group of silicates met with in the rocks of the earth's crust? Give their composition and common crystalline form. In what rocks are they found?

2. What are faults and to what causes are they due? Describe and illustrate with rough diagrams as far as you can the chief kinds of faults, and the effects they may produce on the outcrop of strata. What is a thrust-plane?

3. What is meant by local metamorphism and to what causes is it due? Describe the changes produced in rocks of common occurrence.

4. What is an earthquake-shock and what geological effects may it give rise to? Show how the origin of an earthquake may sometimes be approximately determined.

5. Give an account of the Glacial Period in Northern Europe and briefly describe the evidence on which your statements are based.

6. Give some account of the general character and distribution of the Carboniferous rocks of the British Isles. What are the characteristics marine fossils of the period?

7. Write an account of the order of appearance in time of the chief groups of vertebrates and show how far the order is in accordance with the theory of evolution.

8. Compare and contrast the invertebrate faunas of the Cretaceous and Eocene strata of Europe. What explanation of the facts can you offer?

9. What causes do you suppose have led to the extinction of so many forms of life in every geological period?

ANNUAL EXAMINATION.

AGRICULTURAL SCIENCE.

Examiner: PROFESSOR THOMAS.

1. What is the composition of the ash of plants? What elements of great importance in the plant are absent from it and why?

2. What is the green colour of foliage leaves due to? Describe the microscopic appearance of a section of a leaf. Explain the uses of the structures you describe.

3. What are the usual characters of roots? What are the different functions usually performed by the roots?

4. Describe the seed of the wheat (or any other cereal) and state what changes it goes through in germination. What conditions are necessary for germination, and how would you apply your knowledge in sowing seed?

5. How are soils formed and why do they vary so much in character? What is the nature and source of humus?

6. Describe the mechanical condition of a soil which you would consider to be in the best possible condition for the growth of a crop. What proportion of water should such a soil hold?

7. Describe the composition and chemical properties of lime. Under what circumstances is a dressing of lime of value to land?

8. For what reasons is it necessary to employ manure in agriculture? By what general principles would you be guided in choosing a manure for some particular crop.

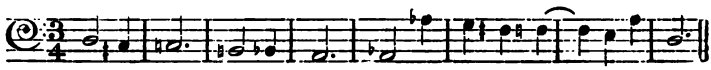
9. Explain the advantages of allowing land to remain fallow and the changes which are effected thereby. What objections is the system open to? What other method may be followed to attain the same ultimate object?

MUSIC (Senior Division.)

Three Hours.

Harmony.

1. Add three parts to this unfigured Bass. Limit the choice of harmony to the diatonic or chromatic discords or concords in the key of D minor. Introduce suspensions and passing notes. Point out an instance of incorrect notation :—



2. Add figures to the following Bass, showing what harmonies might be used. Mark with a cross any bars in which modulations are introduced and state to what keys the modulations lead :—

3. Of what use are cadences in music? What form of cadence is used in the following :—

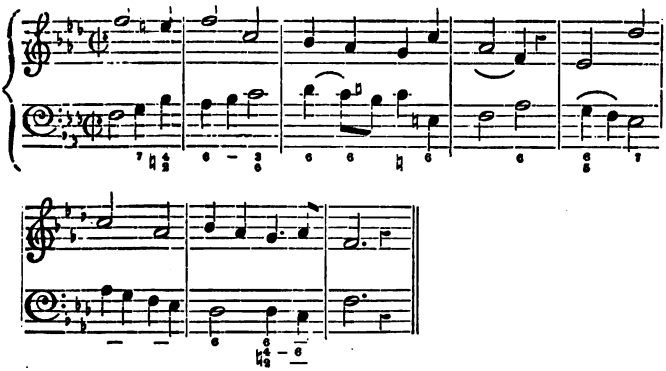
ANNUAL EXAMINATION

4 Write a song with Pianoforte accompaniment to the following words. The Pianoforte part need not be fully written out. A figured Bass with occasional bars fully filled in to show the style of accompaniment will suffice :—

"O, lovely were the summer hours of innocence and youth
When every look was full of love and every thought was truth
When the rose of hope bloomed sweetly and the voice of beauty stole
Like a seraph's song of gladness o'er the pulses of my soul."

COUNTERPOINT, CANON & FUGUE

1. Write a second Violin part between the following parts, the Counterpoint to be in free style and to be in quavers throughout :—



2. To the following C. F. add four upper parts in the fifth species (five parts.) :—

ANNUAL EXAMINATION.

3. Give answers to the following subjects and say whether each be tonal or real and if the former, whether authentic or plagal :—

INSTRUMENTATION.

1. Arrange the following extract for full orchestra :—

ANNUAL EXAMINATION.

MUSIC (Junior Division.)

Three Hours.

1. Why are notes of different shapes used in music? Give the English or German names for the various kinds of notes.

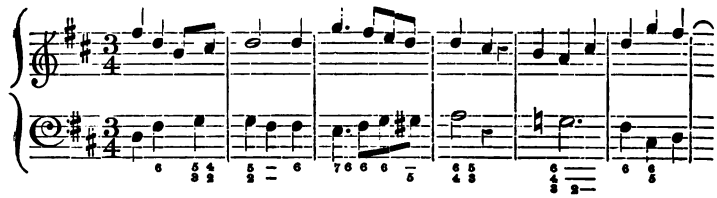
2. Write under each of the following intervals its name and quality, as :— major third, perfect fifth, &c. :—

3. What is meant by the inversion of intervals? State what each of the intervals in Question II. would become by inversion.

4. Alter the value of the notes in the following passage and re-write it as four bars of $\frac{6}{8}$ time :—

5. Transpose the melody given in Question IV. a major third higher, using the Tenor clef.

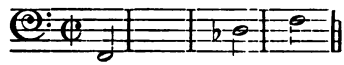
6. Add Alto and Tenor parts to the following. Short score may be used, but credit will be given if the parts are written in proper clefs :—



7. Harmonize the following single chant in four parts (short score). Figure the bass:—

8. Complete the following so as to make each passage a minor scale (harmonic form.) Do not alter the first note:—

a



b

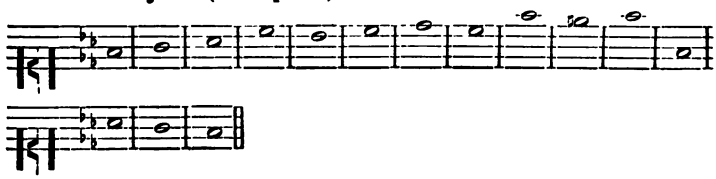
9. Modulate from the key of E to the key of F in four chords.

Counterpoint.

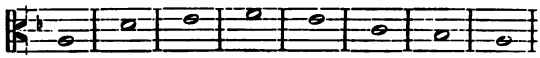
1. For what reason is a study of Counterpoint as well as Harmony a necessary part of musical education.

2. Mention a peculiar practice among old masters in their endings of compositions in minor keys.

3. Add a Counterpoint of the first species below the following subject. (Two parts):—



4. Add a Counterpoint in the third species above the following C F. :—



5. Place the above C. F. in the treble part (an octave higher) and add a part for Bass in the fourth species.

6. On the first inversion of a major common chord it is not desirable to double the Bass note. Account for this.

UNIV. OF MICHIGAN,

JUN 20 1912

TIME TABLE FOR

HOURS.	MONDAY.	TUESDAY.	WEDNES
9—10	.....	.....	.....
10—11	.....	.....	.....
11—12	Mathematics (Hon.) 3rd Year	Mathematics (Hon.) 2nd Year	.....
12—1	English	Physics	.....
2—3	.....	Mathematics (Hon.) 4th Year	.....
2—5	Biological and Geological Laboratories	Chemical Laboratory	.....
3—4	English (Honors)	.....	English Lit Music (Seni
4—5	.....	.....	Music (Juni
5—6	Chemistry Botany (Senior)	Geology	Mathematic
6—7	Latin Translation	English	General Bio
6.15—7.15	Music (Junior)		
7—8	Latin Composition (Junior)	Botany (Junior) Greek Composition	English Lit
6—9	.....	Chemical Laboratory	Biological L Geological
8—9	Greek Translation Mathematics (Hon.) 1st Year	.....	Mechanics